

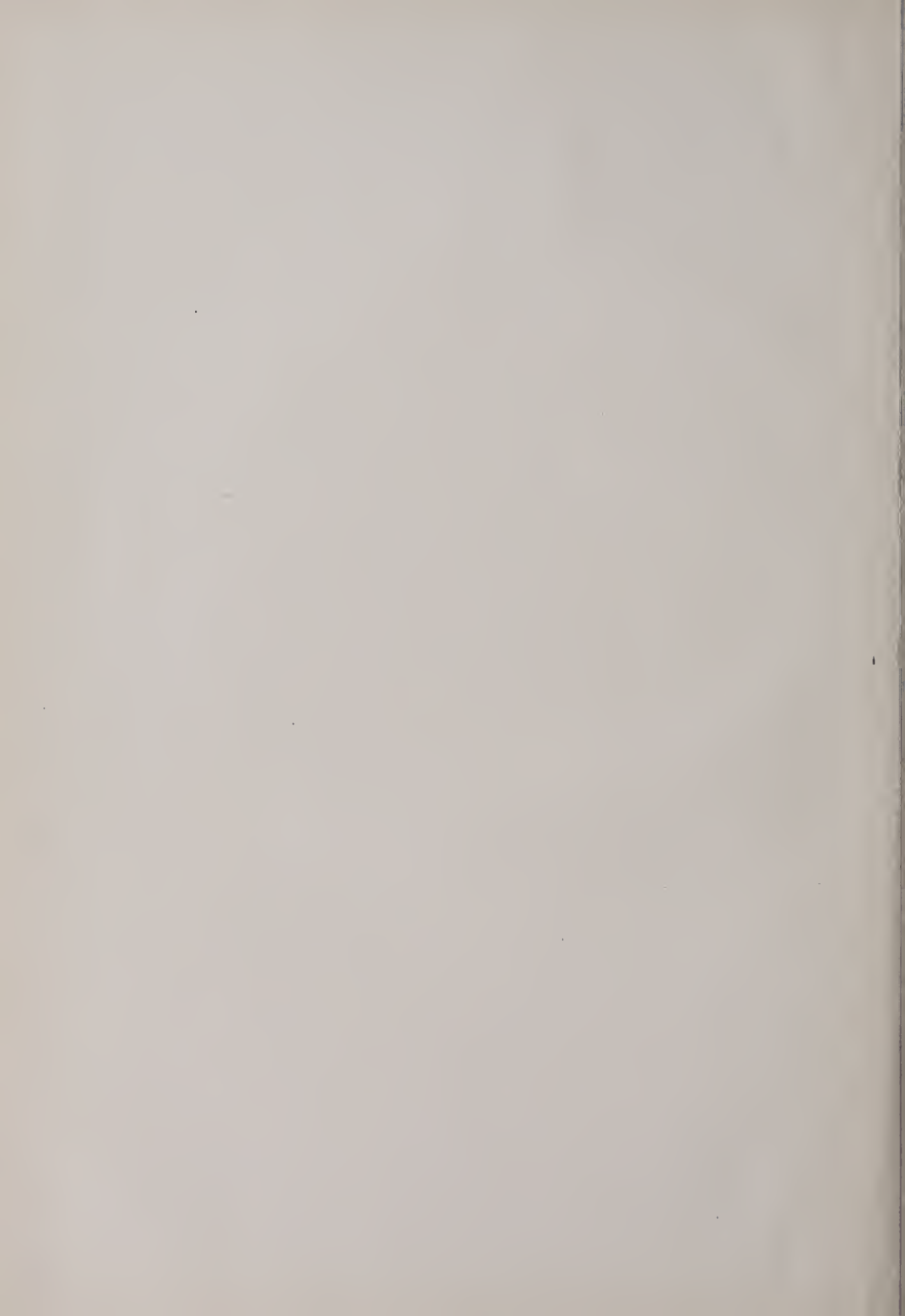
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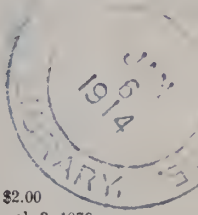
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VOL XII.

BOWLING GREEN, KY., JANUARY 1, 1914

NO. 1

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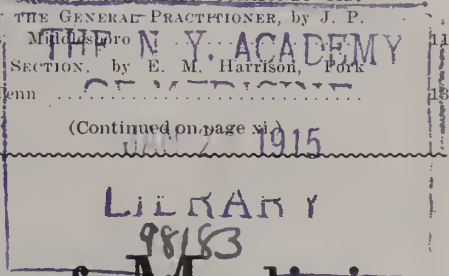
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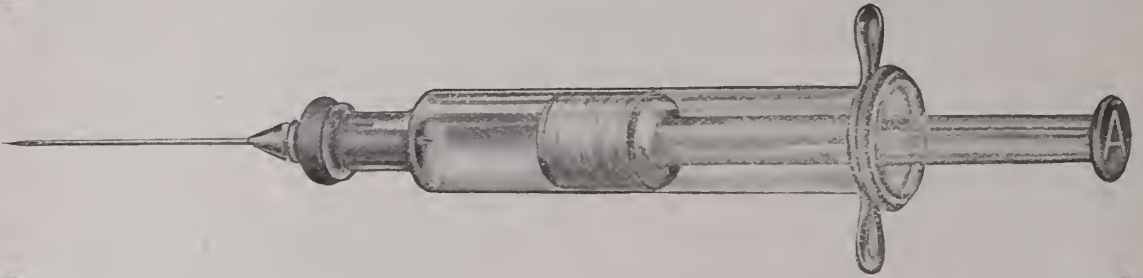
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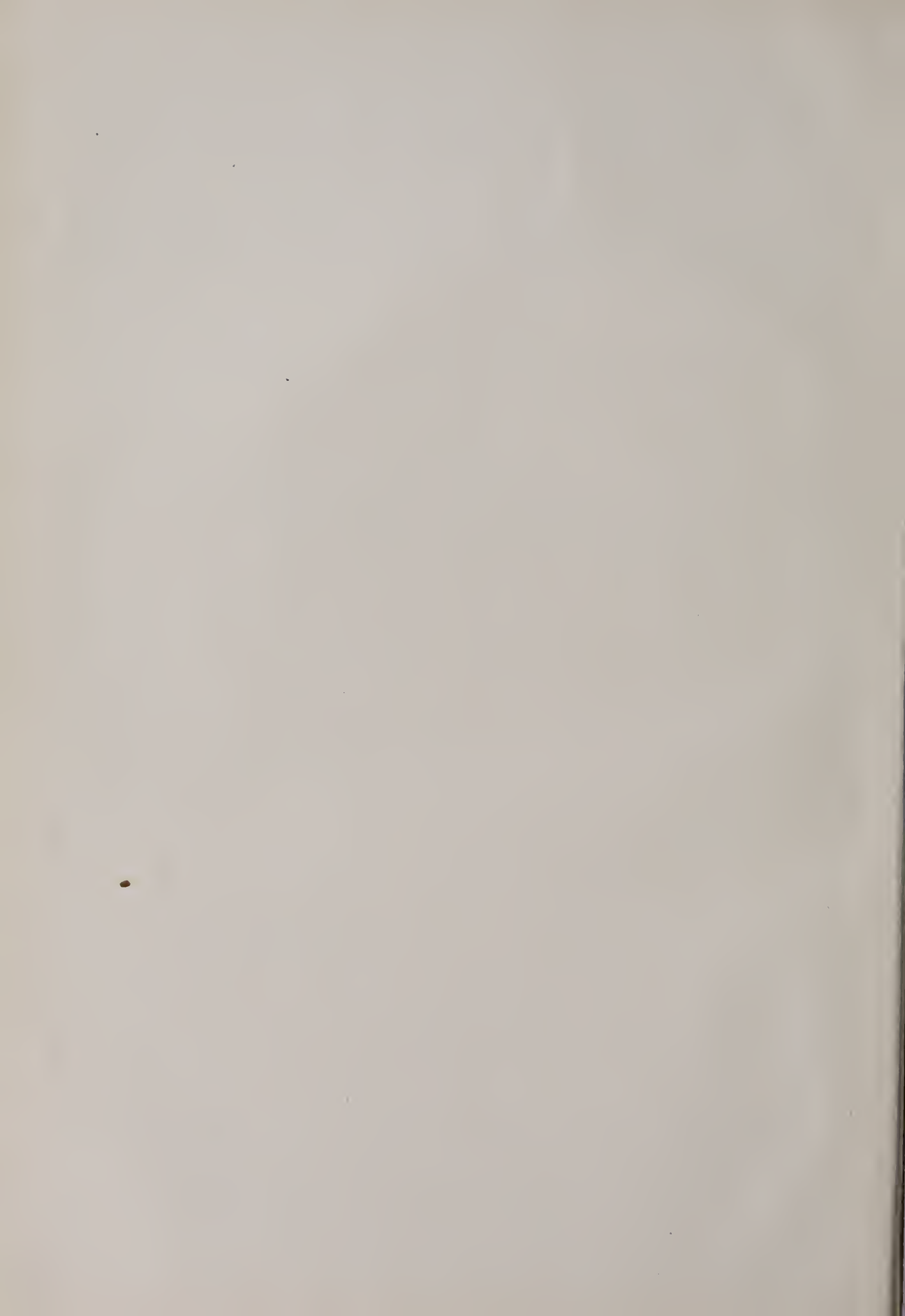
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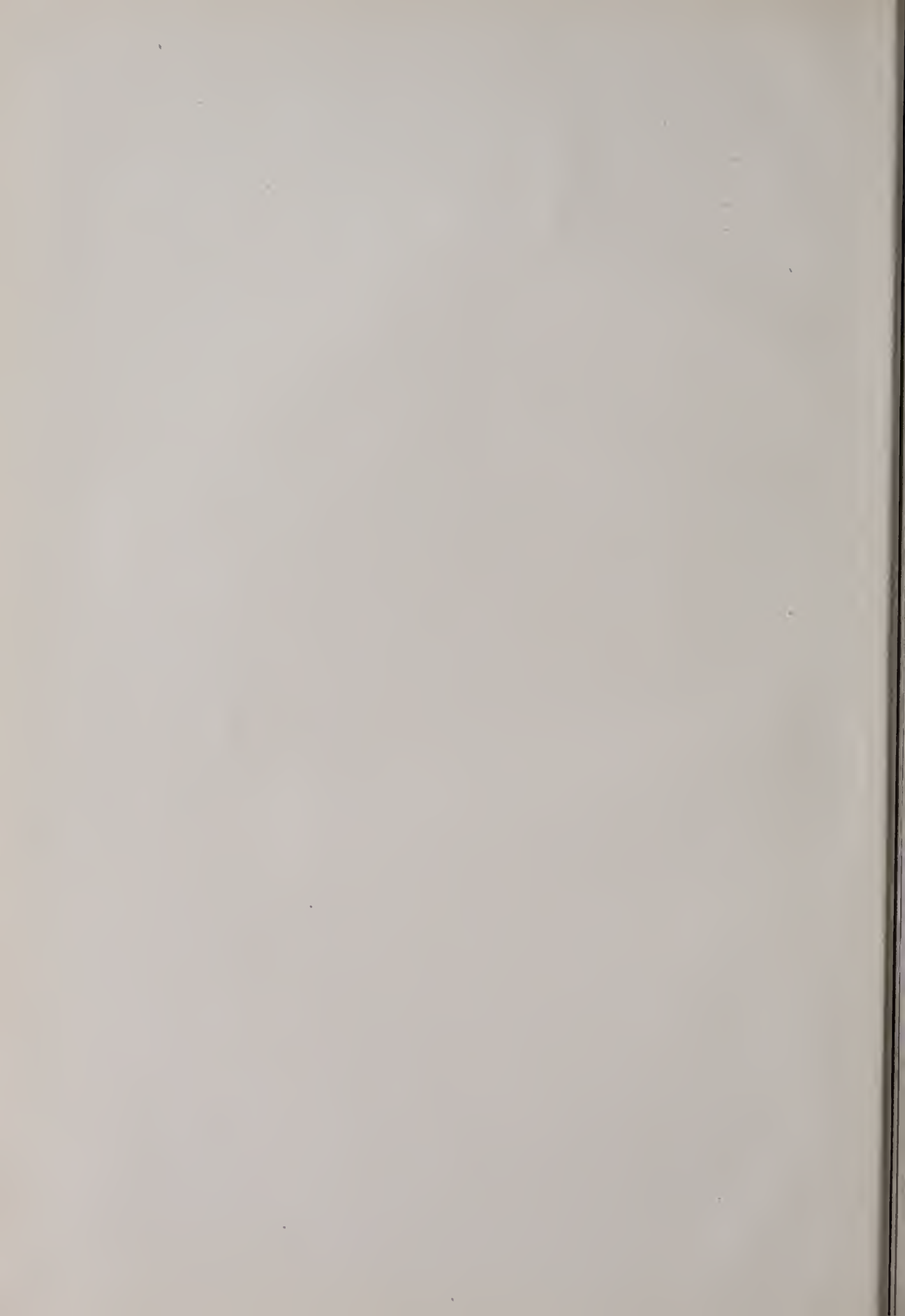
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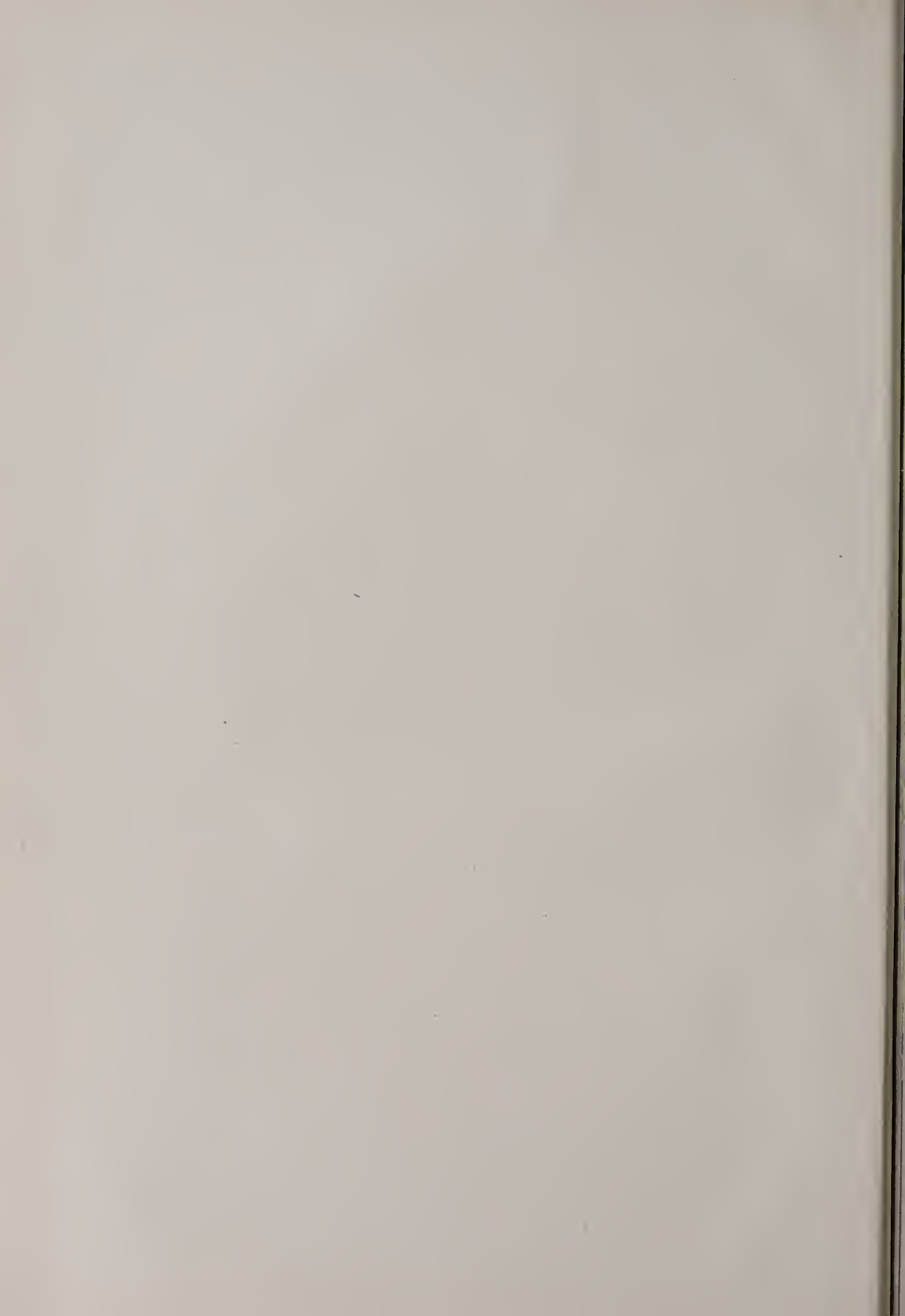
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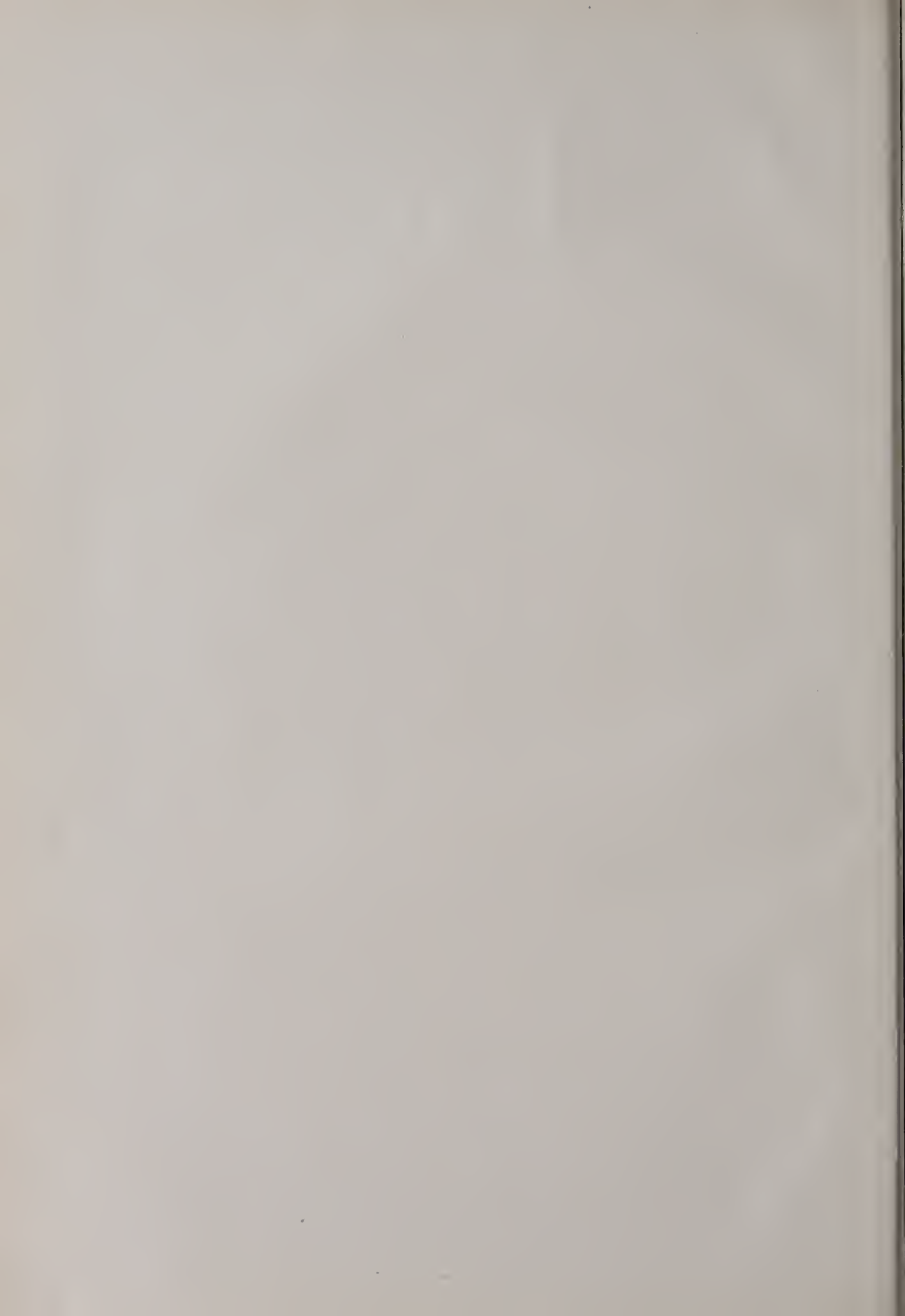
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MARIETTA, PENNSYLVANIA









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January 1914

BELL COUNTY NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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DUNNING S. WILSON

PRACTICE OF MEDICINE
W. F. BOGGESS

VOL. XII. 

BOWLING GREEN, KY., JANUARY 1, 1914

No. 1

EDITORIAL

PELLAGRA.

BELL COUNTY NUMBER.

This issue of the JOURNAL is unique in that it is the first issue edited entirely by a county society which does not contain a large city within its borders.

Many of the county societies of Kentucky are doing extraordinary work but none are doing better than that of Bell County. When one thinks that a few years ago there were practically no physicians in this county except at Pineville and Middlesboro, that but little scientific medicine was attempted and sanitation was limited to a greater or less control of the epidemic diseases, one can realize what progress has been made. Pellagra was first diagnosed in this county. We may add that it has been controlled to a larger degree in this county to any other we know in the whole country and the devoted work of Bell County physicians on this subject alone entitles them to the gratitude of the profession everywhere. A larger number of specimens for examination of intestinal parasites has been gathered in this county than in any other. The dispensary campaign conducted by the State Board of Health was a wonderful success because it had the cooperation of practically every physician in the county. They did not merely support it but they actually got out and secured specimens. The results were so interesting and valuable that the magistrates have requested that similar campaign be conducted every year for five years and the people and physicians of Bell County will only be satisfied when they have made it the healthiest county in the United States.

The JOURNAL congratulates the profession of Kentucky that it has a Bell County Medical Society.

The attached editorial in regard to Pellagra was written by Dr. O. P. Nuckols, secretary of the Bell County Medical Society, in the *American Practitioner and News*, in 1908, and is, so far as we are advised, the first appearance of this subject in the medical literature of Kentucky:

"Until recent years pellagra was unknown to American physicians, and the literature on the subject in the English language was very meager and unsatisfactory. There has appeared, however, more or less recently in the Southern States a disease which is possibly true pellagra, and there is some reason to believe that this disease is more prevalent than supposed to be, but overlooked. It is epidemic in character and of a very serious nature, and some knowledge concerning it is becoming more important especially to physicians practicing in the Southern States. Pellagra was first discovered by G. Casel of Spain as early as the year of 1735, he regarding it as a species of leprosy. It was later described under a variety of different names in Spanish literature. It later appeared in Italy and was given its name by an Italian physician from the words, *pella* skin, and *agra* rough, 'rough-skin'. About the year 1810 Margari first called attention to the relation between pellagra and maize, and in 1842 Belardini suggested the theory of its being due to spoiled maize caused by the growth of fungus on the grain.

"In certain parts of Europe the disease has been quite prevalent and has followed the introduction and culture of maize from America. It seems strang, but nevertheless true, that in the original homes of maize, America and Asia, it has not prevailed to any great extent, probably due to more favorable climatic conditions. The pellagra

zone is a small one when compared with the area over which maize is cultivated.

"It is pretty generally accepted by those who have studied the disease that it is a sort of intoxication produced by toxic substances of a chemical nature as a result of a parasitic or fungus growth, developed on the Indian corn. The theory has also been advanced that it is an auto-intoxication produced by a constant and almost exclusive diet of Indian corn. However this may be, it is an established fact that pellagra generally occurs among the poorer classes who subsist largely on corn, and observation has also shown that in pellagrous localities, during epidemics, the corn is of a very poor and unhealthy quality. There seems to be no special predilection for any particular nationality, age or sex, all being equally susceptible. It is neither hereditary nor contagious. The disease seems to be one of great chronicity. Pellagra is both an epidemic and endemic disease which occurs only in those who have been fed on spoiled maize. It is characterized by digestive disturbances, erythema, and great nervousness. Some cases develop grave chaxemia or even insanity. The disease seems to prevail with more virulence in the spring of the year, the symptoms gradually abating during summer and winter, but to reappear the next spring provided, however, the cause has not been removed. It is more or less insidious in its invasion, usually the first symptoms being gastro-intestinal disturbances, soon to be followed by erythema of the skin and in a short time involvement of the nervous system. It is a slowly advancing toxemia with the brunt of the disease falling ultimately on the nervous system. The disease has not prevailed to any extent in this country and opportunity for its study has been very limited, and for the present need not be looked forward to with any great degree of alarm.

"The treatment resolves itself largely into that of prophylaxis and such tonics as iron, quinine, and strychnine with proper sanitary surroundings.

O. P. NUCKOLS."

DR. ARCH DIXON, JR.

In announcing to the profession of the State the death of Dr. Arch Dixon, Jr., in El Paso, Texas, after a prolonged illness, the JOURNAL feels a peculiar regret that this splendidly prepared physician could not have been spared to his people. Bred into the very purple of the profession by a father and ancestry who have shed distinction upon Kentucky's history, he belonged to the type of manhood the profession can ill afford to lose. The following resolution tells of the es-

teem in which he was held by the profession in his adopted home:

"RESOLUTIONS ADOPTED BY THE EL PASO COUNTY MEDICAL SOCIETY ON THE DEATH OF DR. ARCH DIXON, JR.

"Whereas: In the death of Dr. Arch Dixon, Jr., which occurred in this city on November first, after a prolonged illness, the last four years of which this Society was deprived of his help and association which were highly prized in former years, we realize our permanent loss and the loss sustained by this city: therefore,

"Be it Resolved: That we desire to express to his family and friends our sincere appreciation of his splendid life and efforts, and our sorrow, that he, who was so thoroughly equipped by nature and training for great achievements in medicine, should pass from us forever, at the time of life when his usefulness should have been the greatest. In furtherance of these resolutions, the secretary is instructed to send a copy thereof to the family of the deceased, and to spread the same on the records of this society.

S. F. KING,
D. N. DETWILLER,
B. F. STEVENS,
Committee."

THE SOUTHERN MEDICAL.

The sessions of the Southern Medical Association at Lexington were the most profitable from a scientific standpoint that we have ever attended. None of the sections were so large as to be unwieldy and yet the splendid interest in the scientific essays was maintained by the kind of discussion that is rare in large meetings. Entirely devoid of politics, the sessions of the Association were the only things of interest and everybody enjoyed them. We feel satisfied that next year at Richmond, Virginia, there will be a larger delegation from Kentucky to indicate to our Southern brothers how much we enjoyed them and how profitable their meeting was to us.

The profession of Fayette County has again earned the gratitude of the doctors of Kentucky because of their entertainment of our visitors. There was a kind of persuasive hospitality that is always shown in Lexington that can be excelled by the people of no other locality; especially, to Dr. C. C. Garr, who was the active member of the Committee of Arrangements, should credit be given for the perfect entertainment.

THE INDEX.

The index for the JOURNAL for 1913 is published in this issue. We trust the members will preserve it as this will enable them to find subjects or authors easily. It gives us pardonable pride to glance over its columns and see how much scientific work has been done by the profession of Kentucky during the year. The arrangement of the index is a matter of considerable difficulty and we are sure you will feel that it is worth while.

OFFICERS BELL COUNTY MEDICAL SOCIETY.

Jacob Schultz, Logmont, President; H. C. Chance, Cumberland Gap, Vice-President; O. P. Nuckols, Pineville, Secretary; U. G. Brummett, Middlesboro, Treasurer.

SCIENTIFIC EDITORIALS.

WHAT IS THE ETIOLOGY OF ECZEMA?

While eczema, according to the best authorities, is fully 30 per cent. of all skin diseases; while it is met in all conditions and ages; while its clinical picture is well known to both the specialist and the general practitioner; still its true character and etiology are uncertain. According to the pathologist, it is an inflammatory affection of all the layers of the skin and subsequently divided into many forms. Its etiology has been a stumbling block to all of us. Many theories have been advanced and rejected; revived and rejected again. At the last meeting of the American Dermatological Society held at Washington, the etiology of eczema was taken up and thoroughly discussed. Different dermatoses, resembling eczema, were excluded, such as trade eczemas (which is rather a true dermatitis since we know its real cause) and eczematoids due to staphylococcal origin as reported by Sabouraud, Fordyce, Engman and others. It is the acute and subacute eczema, with its limited and generalized processes, that was taken up and discussed. No definite conclusions were made. Dr. Hartzell reiterated his oft-expressed opinion that during the past century we had not learned a single fact bearing upon the internal cause of eczema.

The most brilliant and scientific data were given in a paper on eczema by Dr. James C. Johnston, who is, by the way, a Kentuckian. Disposing of parasitism, disorders of digestion, elimination, the nervous system, the probable causes of eczema may be narrowed down to derangement of nitrogen metabolism neither anaphylactic nor a defective synthesis of urea, but occurring where for the moment biochemistry cannot demonstrate it. Color is

lent to the theory by the appearance in its course of allergic phenomena and urinary evidence of incomplete desamidation.

Perhaps the fault lies in the favor of protein-splitting in the intestinal wall or the blood stream before the tissues select their store of amino-acid nitrogen. Johnston's paper was widely discussed. The unanimous opinion of the men who discussed the paper was that we did not know much about the etiology of eczema. Zeisler's opinion of the etiology of eczema is rather paradoxical. He expressed himself as follows: When we had a case of eczema of which one knows the cause, then, it was not eczema; and if we had a case of dermatitis and did not know the cause, then, it was eczema. We all must agree with Walker that in eczema we were confronted by disease regarding whose etiology we were absolutely ignorant. Jackson, who has been teaching dermatology for many years, was wont to say that eczema is due to an unknown internal cause plus an external irritant. Pollitzer, unable to get at the true cause of eczema, finds it impossible to get away from the bacterial origin of eczema, while the evidence was all against the possibility of such a theory. Knowles, from numerous cases treated, is of the opinion that microorganisms were apparently not the cause of eczema, but probably played a secondary role in this affection. Grinden is of the opinion that eczema was simply a peculiar type of inflammation due to a wide variety of causes and analogous to catarrh of mucous membranes. He believes that the internal cause of eczema is more important than the external. This we see in eczema of the face in children up to the period of dentition. There is often a cooperation of internal and external causes.

Anaphylaxis has been often mentioned as an important factor bearing upon all the types of eczema. However, the most peculiar feature of eczema is that no pathological changes were found in the so-called sensitized skin after the eczema had disappeared.

The most plausible theory of the real cause of eczema is that of Luithlen, the best known biochemist and dermatologist in Vienna, who paid particular attention to chemistry of the tissues and skin in healthy and diseased condition. He is of the opinion that eczema is due to metabolic disturbances. His observations are the first scientific proof of the old empirical fact that nutrition, diet, and internal treatment are important. They explain in which way diet, mineral waters and health resorts, for instance, Carlsbad, may exert a beneficial influence not only upon the entire system and its metabolism, but also upon the reaction of the skin and some of its affections. These findings show that in the

treatment of eezema we must pay attention to metabolism. They justify regulation of the diet and also internal treatment; they are the proper scientific basis for treatment which many of us have initiated years ago based on clinical observations. They show the road to etiologial therapy upon which we may probably reach more exact indications for treatment with greatest security and success.

M. L. RAVITCH.

SOCIAL SERVICE DEPARTMENT.

The pauperization of our people through the many charities maintained either by private or public means is a real menace to our Republic. To individuals who are absolutely destitute the doors of our Hospitals are thrown open, the coffers of our charitable organizations are placed at their disposal and the services of the large number of physicians, nurses and social workers, etc., are immediately obtained and the independence of spirit which is the birth-right of every one is slowly undermined.

There is a proverb which says, "God helps them that help themselves" and when we see the help that is given to those who do not help themselves, by man or woman, we truly believe that it is God and God only who helps those who help themselves, for certainly man's most strenuous efforts and largest donations are showered upon those who do not attempt to help themselves.

Publish an article in the newspapers describing the destitute condition of an individual, family or community and ask for contributions; go to any man or woman and pour into their ears a story of poverty and dependence about an individual or family and you will not fail to secure donations of every character.

How difficult it is on the other hand to secure real interest and help for those brave individuals who though handicapped either physically or financially, are striving continuously to preserve their independence and yet because of the lack of helping hands, are slowly being dragged down into the cess-pool of pauperism and dependence.

Institutions which are entirely charitable and in which services, etc., are absolutely free, are constantly receiving aid from many sources, but institutions which are requiring persons to pay something for the services rendered eke out a precarious existence.

We must realize that sentimental consideration is not always the best for the persons who are made the recipients of our charities, but that even in our charitable institutions we should make the inmates understand that in return for the services rendered they should

give such return as is possible in money or work. At the same time we should endeavor to enlarge the scope of our energies in endeavoring to discover individuals, families or communities that need assistance and yet who are not willing to be made so-called "objects of charity."

* * * * *

No man or woman can direct their energy along any special line looking to the betterment of a community without finding himself or herself broadened. In this connection it is interesting to note that Mr. J. B. McFerran, who until comparatively recent years has confined his greatest energy to business, has found time lately to endeavor to improve the educational facilities in Kentucky and by exercising those analytical and far-sighted qualities which help him in the world of business, he has come to realize that the word education not only means improvement in our school system but that it also brings within its definition every factor that goes to make up a community's welfare.

He together with other far-sighted men are now endeavoring to bring about a central organization which will conserve time, energy and money in improving conditions whether financial, economic, social or moral throughout our State.

May we hope that more financiers, bankers and business men together with farmers and educators will see the necessity of such a method in order that real results will follow.

* * * * *

The honor system of utilizing prisoners for work on roads bids fair to prove a real advance in our prison system. Colorado, Oregon, Washington, Wisconsin, Florida and Illinois are using it and find that it is a good thing.

It is stated that the departure from Joliet prison in Illinois on the part of the convicts for "Camp Hope" and the work out of doors was most impressive. One convict sat up all night nervous and sleepless over the coming change from four walls to open country and from convict stripes to citizen's clothes. The men travel in suits of Sunday black and work in khaki suits and shirts. The pay which the men receive is sent to their families when they have any or held until they are released.

Kentucky's roads could be improved and her prisoners greatly benefitted if some such system were adopted here, at the same time breaking up the contract system which permits our prisoners to be utilized in manufacturing articles which enter into competition with the free man's labor.

Take off their stripes, let them learn that there is still for them something better than cells and guards. Make them work but pay

them so that their dependent families may not become the wards of our charitable organizations.

* * * * *

Gifford Pinchot who has done so much for forestry conservation has accepted the chairmanship of a special committee on the church and country life to represent the Federal Council of the Churches of Christ in America. Professor Thomas N. Carver of Harvard University is also a member unofficially representing the Rural Organization Service recently created in the department of Agriculture by Secretary Houston.

The Rev. Chas. O'Gill, who together with Mr. Pinchot have published a volume entitled the Country Church, will conduct the work of this special committee. In humiliating contrast to this real sensible forward step is the opposition to the Country Life Department of Home Missions in the Northern Presbyterian Assembly.

* * * * *

From Character, (a Boston business magazine of personality, edited by Thomas Drier) comes the following unusual editorial on loyalty:

In the name of loyalty there is perpetrated upon the world more vile rot than the laws of common sense allow. Oftentimes employers find that talks on loyalty can be given in lieu of salary.

Conversation will not buy the baby Castoria, or fill the cellar with vegetables for the winter, but conversation on loyalty is often given to workmen as if it would purchase for them not only the necessaries but the luxuries of life.

Blind loyalty is asinine. Every employee deserves to know the reason why. It is the divine right of every man to be from Missouri.

Loyalty to employers is a subject upon which the wielders of the whips talk to their wage slaves as they send them out to labor in the sweat of their brow to add to the fame and wealth of those whose tongues are gilded with the germs of loyalty talk.

I believe in loyalty, but I believe infinitely more in the square deal. I know that no institution can be built up unless there is harmony; but I deny that in order to secure harmony the eyes of men must be blinded and they must follow like sheep some leader who uses them only for his own selfish purposes.

It is because of this fetish of loyalty that we have the House of Want and the House of Have. It is because of the blind worship of convention, of precedent, of smug propriety, that men to-day fail to receive what they earn. And they worship blindly these things because they are ignorant and in their ignorance they do not realize their power, nor do

they understand what men mean when they talk of the Square Deal.

Loyalty to self is the greatest loyalty. The man who is truly loyal to himself will give his neighbor a square deal. And it is only when the doctrine of the square deal is practiced that the ailments of society will be cured.

DUNNING S. WILSON.

"DAMAGED GOODS."

I have seen an epoch making play, the like of which has never been produced before, Eugene Brieux's "Les Avaries," or to give it its English title, "Damaged Goods." It is a play intended to convey the biblical statement "that the sins of the father are visited upon the children," a sermon in dialogue, a play of thrilling interest with but few moments of action, a play that holds and attracts even one who is worldly wise and sorrow-worn, who for two decades has been pleading and to whom the story is old and worn.

The theatre was quiet; no music, no tinkling of cymbal, no crash of brass, no gentle reed or string broke its solemnity, for the play and players had come to tell us in a new way, *to the public*, a story centuries old to physicians. The play is adapted from the French by Benjamin Blanchard and upon perusing the program under the title we find: "the object of this play is a study of the disease of syphilis and its bearing on marriage. It contains no scene to provoke scandal or cause disgust nor is there in it any obscene words; and it may be witnessed by every one, unless we must believe that *ignorance and folly* are necessary conditions of *female virtue*." Before the curtain goes up Mr. Richard Bennett, who takes the stellar role, announces from the stage the above quotation and states that the words *mistress, prostitute, prostitution*, etc., will be employed, but in no way to offend; to this they adhere in every sense of the word.

The scene of the first act opens in the consulting room of the Doctor (no name) with George Dupont (Bennett) waiting, evidently having just been examined by the Doctor in adjoining room. The Doctor enters, takes his seat at his desk, prescribes, explains what is necessary for him to do and finally tells him in a kindly way of his disease, its peculiarities, possibilities and dangers. Dupont represents his misfortune, complains and states that he is to be married and announces in extenuation of his position, that he must be married, that everything has been "arranged;" that his match is a "splendid" one, the bonds have been signed and every detail of the notaries complied with. Then follows arguments only too well known

to the medical profession; that syphilis can be controlled (cured?): that he must wait four years; more tears, recriminations, curses upon the "farewell bachelor supper," with its, "wein, weib und gesang," its lewdness and disease, a plea for a more speedy cure and the wholesome, clean, clear cut advice of the Doctor, who makes him fully understand the terrible crime he would commit, not alone against the pure and untarnished girl, but the dangers of having a syphilitic child. We cannot but admire the clearness of the statements made, their freedom from exaggeration and their plain truthfulness,—together with the kindly sympathetic but scientific attitude of the Doctor. When the complaining and whining man at times resents the *dictum* of medicine the Doctor rises in his wrath to teach him the lesson, not only he, but alas! so many others need who have been infected with this terrible malady and its cogener gonorrhoea. The Doctor paints, in strictly honest and truly scientific manner the dangers and results that would fall not alone to the innocent and uninfected woman he is to take for wife, but of the grave risk to the child, should paternity become its lot. The announcement of the cure of syphilis by a persistent and careful course of treatment for four years (Fournier would have said five) leaves to him the hope that he may with honesty, *perhaps*, look to marriage after this time. It is evident from the start that Dupont is not likely to follow the well meaning and, excellently delivered, advice of his physician. No other characters appear upon the stage during this act. After an interval unenlivened by music, the curtain rises upon what should be a happy home. Under the false statement that he was threatened with tuberculosis, Dupont has secured six months stay of proceeding and as the superficial lesions had disappeared he contracted marriage and as a natural sequence has become a father. That he does not realize his perilous position is shown by the marked evidence of his happiness and pleasure in his genuine love for the girl, who he has made wife. But the baby isn't well; it is frail, delicate, has the "snuffles," has some skin lesion of which everyone at the time seems ignorant. The baby is taken to the country and here for the first time the mother-in-law who, like most grandmothers is devotedly and passionately attached to the baby, learns the terrible news; it is a syphilitic baby. She brings the baby back to town and tells the father. It cannot be bottle fed and she has brought a sturdy peasant girl to nurse the baby as foster mother and in her passionate love for the infant is willing to sacrifice this woman to the disease, if the infant may but live. When the nurse finds out the facts, she leaves, presumably

uninfected, but before she leaves she tells the terror-stricken wife the brutal fact that she has gone through the cane-break and picked out a crooked reed, that she has bought goods the warp and woof of which seemed good and durable, but which in reality were damaged. With her horrified shriek to the man to keep his hands off the curtain falls.

In the next act we are back again in the consulting room of the Doctor, who had been called in the previous act to see the infant and who had told the mother and son the vital facts and of the warning that had been given. In this act we have much that can be commended. The wife's father, a deputy of France, comes to the Doctor with the intention of getting at the truth and then "killing the scoundrel." He is to learn a sad lesson for the Doctor truly tells him that it will do no good, that a shooting will but drag his daughter's dishonor and their dirty linen through the press of Paris and accomplish in the end no good. His recommendation is sensible. For they must both learn a sad and terrible lesson, the outcome of the unfortunate cultural conditions of modern life. They must both be treated, they must both take up their life together, they must both learn to devote themselves to one another and try, out of their misfortune to pluck what contentment and happiness is possible. The deputy resents the statement of these facts and names himself as an example of a *moral* husband and *virtuous* father. The Doctor soon takes the starch out of him by showing that *he was not virtuous* as a young man by any means and the fact that he was free from syphilis was due to a species of "*good luck*" and not to any virtuous or well meaning attempt to remain so. The Doctor has brought several people from his clinic. He shows a woman with wrecked life who has gone untreated for years and her plea was "I did not know." A man broken in health, to whom the word happiness had long since passed, plead "I did not know." He then shows a prostitute and in this character traces the frightful course of infection after infection. The girl describes her pure and happy life, her misfortune, her infection, her terrible suffering, her growing hatred of men that trod the "Boulevards," of how she "*made them pay the bill*" how she evened the balance with her seducer, how her beauty and her disease entangled the rich, the poor, the middle aged, youths and even boys until the deputy, sickened beyond belief, cries halt, enough. When the last curtain falls, we find that the star has not been on the stage during this act, that while we have been listening to a large volume of talk, we have in reality been watching a much bigger and more thrilling spectacle of a fight of a man through three acts to

win his beautiful and beloved, and we must be a pretty case hardened sort of a fellow not to just stay awake a little while thinking about this play when we reach home, even though we *have seen* these things for twenty-two years.

And now for the playwright, producer and characters:

Eugene Brieux, a member of the Academy of France, has written some most excellent plays, although the critics say that "*Damaged Goods*" is the least likely the one to have been popular of all of Brieux's plays that have been turned into English. But it has survived the patronage of the curious and morbid and achieved success, a real success on the mere ground of being *worth seeing*. Brieux, we believe is much more of a preacher than a dramatist; he is a tremendous moralist and has written a strong play with a moral to it. He is no prude and while he calls a spade a spade, there was never a word, never a statement and never an idea that could be twisted into the obscene, save by one whose *rationation* is sadly defective. He does not try to write pleasant things concerning the affairs of people and this is certainly not a pleasant subject to look upon, for he shows man and woman suffering, not lightly, but terribly, not because they are bad, not because they have evil intents, but because they are *boldly ignorant and do not know any better*. It is the crime of ignorance and it is this lesson that Monsieur Brieux wishes to convey. God knows it is needed and every true physician wishes this message carried to the uttermost ends of the earth. I cannot agree with Ralph Reed (*Lancet Clinic*, April 26th, 1913) that "*Damaged Goods*" is not a good drama and I think that his statement that "a really great drama must have a theme that finds sympathetic response in every heart. All great dramas do—every one can sympathize with the moral conflict that is the central core of all drama, particularly tragedy." It is our belief that there is here in the last analysis a sympathetic response in every heart for the helpless woman, for the unborn and already born child who has become contaminated with syphilis. But let us not call it a drama. Let us call it a play—the play—"for the play's the thing wherein to catch the conscience of the king" (Hamlet). If we cannot do anything else, we can at least meet on common ground and extend to Monsieur Brieux our sincerest thanks and appreciation of his estimate, not alone of the true physician in his relations to his patients, but in his vocation as a guardian of the morals of the home and the social fabric. All honor to Monsieur Brieux.

Richard Bennett produced this play against opposition, we are told, that was very

pressing. He calls it an educational production which sounds forbidding and one would think would scare away audiences. Puritanical opposition came to his rescue and he has been educating large crowds every week. He has not played to the galleries concerning the sex life of France, but is trying, through this play to teach people the brave business of *facing facts*, of trying to teach legislators how little *they* know, and the absolute need we have of more sensible marriage laws. Mr. Bennett is very effective in his acting, for he has a hard character to play. George Dupont is very mean and despicable, at times; weak and vacillating at others, but never, for one moment does he cease to be very essentially human. We certainly owe Mr. Bennett a debt of gratitude for his production and an appreciation of a part well played.

In many years of theatre going, I have yet to see a piece of character acting to exceed that of the "girl", a *femme du pave*, taken by *Miss Adrienne Morrison*. We have been told that it was difficult to secure a woman to take this part and that the lady who plays it, has sacrificed her feelings, in the belief that her contribution in this play may be of lasting benefit to the human race. The role must naturally be a difficult one, requiring the putting aside of one's personal feelings. Her acting is simply letter perfect; a woman tricked: a prostitute. "*Damaged Goods*." Her acting, true, Oh! so true to life, so full of that subtle truth of acting that makes a character a live, breathing thing. One cannot but feel the heart tighten and the cords of sympathy vibrate to her heart rendering suffering, to her humanity. This is alas too well known to comment upon. We cannot speak too highly of her acting. A difficult part well filled, by a capable actress.

We feel, however, that the *Doctor*, as played by *Louis Bennison*, is undoubtedly the best portrayal we have seen in years upon the stage and we would place him along side of Mr. Albert Brunnings rendition of the character of Dr. Emerson in "*The Case of Becky*." Mr. Bennison *looks* the Doctor; strong, tall, forceful and dignified, who represents all that we would wish for in the physician; truthful, honest, intelligent, scientific in his private work; and who shows to best advantage in the interest he has in the betterment of the social fabric. Oh! how sick and sad and tortured are we through, yea, these many years, so heartily sick of the vaudeville, "mellodramatic" and "movie" picture characterization of "*Doc*" with his perennial whiskers and his little black bag. Angels and ministers of grace, defend us from this continued affliction and may we close this editorial with an expression of

sincerest appreciation from a medical man to Mr. Bennison for his intelligent and scientific rendition of Monsieur Brieux's physician. It is to be hoped that the stage will see more of such men.

"Damaged Goods" pleads with great force for clean living; intellectual and moral honesty and is a courageous fight against hypocrisy. It is never indecent; it never lies; it is *always* frank. We feel that we cannot better conclude in this connection than in publishing the following gem that is decidedly pertinent to the remarks herein made; it is a poem by Ella Wheeler Wilcox.

THE PRICE HE PAID.

I said I would have my fling,
And do what a young man may;
And I didn't believe a thing
That the parsons have to say.
I didn't believe in a God
That gives us blood like fire,
Then flings us into hell because
We answer the call of desire.

And I said: "Religion is rot,
And the laws of the world are nil:
For the bad man is he who is caught
And cannot pay his bill,
And there is no place called hell:
And heaven is only a truth,
When a man has his way with a maid,
In the fresh, keen hour of youth.

And money can buy us grace,
If it rings on the plate of the church
And money can neatly erase,
Each sign of a sinful smirch.
For I saw men everywhere,
Hotfooting the road of vice;
And women and preachers smiled on them
As long as they paid the price.

So I had my joy of life:
I went the pace of the town;
And then I took me a wife,
And started to settle down.
I had gold enough and to spare
For all the simple joys
That belong with a house and a home
And a brood of girls and boys.

I married a girl with health
And virtue and spotless fame,
I gave in exchange my wealth
And a proud old family name.
And I gave her the love of a heart
Grown sated and sick of sin!
My deal with the devil was all cleaned up,
And the last bill handed in.

She was going to bring me a child,
And when in labor she cried.

With love and fear I was wild—
But now I wish she had died.
For the son she bore me was blind
And crippled and weak and sore?
And his mother was left a wreck.
It was so she settled my score.

I said I must have my fling,
And they knew the path I would go;
Yet no one told me a thing
Of what I needed to know.
Folks talk too much of a soul
From heavenly joys debarred—
And not enough of the babes unborn,
By the sins of their fathers scarred.

CURRAN POPE.

ORIGINAL ARTICLES

INSECTS AS TRANSMITTERS OF DISEASE.*

By J. H. HENDREN, Cary.

The subject which has been assigned to me is indeed a broad one, and to do it justice would require a volume instead of a short paper. Possibly the first and most clearly demonstrated case of disease transmitted by insects was the Texas fever of cattle, which was shown to be transmitted by the cattle tick or dog tick. This discovery opened a new field of investigation, and since that time some ten or fifteen of our most important diseases are now known to be dependent either entirely or in a large measure upon insects of some kind for their continuation in the human family.

This subject as a whole is entirely too broad for this paper and I have limited it to "Insects as Transmitters of Disease in Bell County."

Insects which transmit disease may be divided into two great classes:

First, mechanical; second, biological.

To the first class belong those insects which simply act as a carrier of the disease germs from place to place as a man carries mud on his boots in muddy weather. While the second class embraces those insects within whose body the disease germs undergo some transformation necessary to their propagation.

Of the first or mechanical class the most common insect, not only in Bell county but everywhere is the common house fly, *musca domestica*. This insect, so long considered harmless, we now well know to be the cause of much of the typhoid, hookworm, and intestinal summer diarrhoeas of children, so prevalent in this region. It was not known that flies were a causative agent in the pro-

*Read before the Bell County Medical Society.

duction of typhoid fever, until 1898, when typhoid killed more soldiers in the concentration camps of the American army, than the Spaniards did in battle. A typhoid commission was appointed and the charge was made and proven that the house fly was the most active spreading factor.

I believe that a conservative estimate of the cases of typhoid in this county caused by the housefly would be 50 per cent. To tell the truth there is not and can never be any reliable statistics on this point. When we consider that a person may give off active typhoid germs for some time before the disease is seen or recognized by a physician, that some cases run the regular course without ever seeing a doctor; and that some typhoid carriers, though in good health and working every day, give off typhoid germs by the million; statistics in these cases must indeed be meaningless things.

The housefly carries typhoid, not in its body, but on its body. The housefly is abundant in country places, especially near places where horses are kept. The reason for this is that the preferred food of the magot or housefly larvae, is horse manure. Flies breed in incredibly large numbers in horse manure. Ten to twelve days completes the generation, and one adult female will lay from one hundred to one hundred and twenty five eggs every three weeks. In one season the descendants of one fly, under favorable conditions, will number more than one billion.

Stiles in his work on hookworm, seems to think, or at least leaves the impression that all cases of hookworm follow as a result of "ground itch". In my opinion, this is not true. My records show a number of cases of hookworm under one and two years old, with no history of sores of any kind. The infection in these cases I attribute in a large measure to flies carrying the infection to the child's bread and butter, or dropping the eggs or larvae on the floor, which later get directly into the child's alimentary tract, without the formality of going through the skin.

On many farms in this county, where even very intelligent people live, the open type of closet is too common, and I attribute this to a lack of education along sanitary lines. When the physician is called to even a suspected case of typhoid, he should carefully inspect the outhouses, water supply, etc., and give such suggestions to the family as he thinks best. Much good could be done toward better sanitary conditions in the county, as well as to show to the family that he had more at stake than the fee. The only cure for these troubles is to prevent them, and prevention comes only through better sanitation.

Another insect quite common here, is the

little fruit fly, of the genus *Drosophila*. These are much smaller than the house fly and are often spoken of as "gnats." They breed in decayed fruit, and sometimes in human excrement. They may be seen in droves around rotten apples, cider presses, and decayed fruits of any kind. While the danger of infection is not so great as with the house fly, it should be kept in mind. Fruit should be screened when in the home, and over ripe fruit should not be allowed to remain long in the house.

The germs of the cattle disease, anthrax, can be carried by the gad fly or common "horse fly", and when these insects bite man a malignant pustule may result. However they rarely bite the human. The horse fly is common in this county, and while I know of no cases of anthrax, it should be borne in mind.

Another insect which occurs in Bell County is the *simulidae* or minute fly which Sambon claims transmits pellagra. While I have not examined many streams, I have found the larvae of this fly in every stream which I have examined. The adult fly is a small insect, a little larger than the common gnat, while the larvae looks not unlike the common wiggle-tail to the naked eye. The larvae is found on the under side of stones in swift streams, especially at or near rocky fords. They are tender little creatures, and seem easily killed by the waste oils from machinery, and mine waters. They are very hard to hatch into the adult fly, and much trouble and patience is necessary. Personally I have never seen anything to lead me to believe that there was any relation between pellagra and the Sambon fly, but I do believe that pellagra is a germ disease with an intermediate host which has not yet been discovered.

To the second group belong the mosquitoes.

To these insects alone is due the transmission of malarial fever. There are about thirty genera of mosquitoes known and classified but for the purpose of this paper only three need to be mentioned, namely: *Culex*, *Anopheles* and *Stegomyia*, all three of which are found in Bell county. There are many mosquitoes which have not yet proven to carry disease. In fact the majority of them are supposed to be harmless except for the irritating bite. To the harmless mosquitoes belong the genera *Culex* mentioned in this paper for the subject of comparison and not for their disease spreading proclivities.

Of the three species of *Anopheles* mentioned as malarial carriers, *Anopheles maculipennis*, *Anopheles punctipennis* and *Anopheles crucians*, I have found the first two in this county, but never the last. This is rather

odd, as the *anopheles drucians* is said to be widely disseminated over the southern states.

All mosquitoes lay their eggs in water, which hatch in from one to three days. The eggs of the *culex* resemble a minute piece of honey comb, floating with their long axis perpendicular to the surface of the water, while those of the *anopheles* float independently of each other, end to end or side to side as logs in a boom. The larvae of the *culex*, familiar to every one, are found in troughs, rain barrels, tubs, tin cans, in fact still, stagnant water anywhere, and are known as wigglers or wiggletails. The tail is the breathing tube. The larvae come to the surface of the water stick this tube out into the air, and hang heads downward. The breeding places of the *anopheles* are not so varied as the *culex*. They seem to prefer those places that have the soil for a bottom. They are found in the still waters of small streams, swampy pools, ponds, stagnant water in ditches, but seldom in barrels, buckets, etc., where we find the *culex* so abundant.

The food of all mosquito larvae is the green scum or algae of stagnant water. It is a fact of enormous sanitary importance that mosquitoes cannot breed without still and reasonably stagnant water. Adult male mosquitoes usually die soon after copulation while females often live all summer. Only the females bite, and they will attack any warm blooded animal.

In my opinion, malarial fever in Bell county can never amount to very much. In my eight years of residence here I cannot recall more than one or two cases that I felt sure originated here, although I have treated a number of introduced cases, especially from Laurel county and the Phillipines. The reason for this is plain. The smaller streams are swift and rocky, and abundant springs keep the water cool. High mountains prevent the formation of pools on their sides, and the soil of the bottoms is sandy which lets the pools dry up before the water stagnates. Mosquitoes, as a rule, never migrate more than a mile from the place of hatching. High winds might blow them to greater distances under unusual circumstances. They do not rise to very great altitudes, and homes on mountains are free from the pests.

I have also found a few specimens of the adult *stegomyia fasciata*, or yellow fever mosquito, in this section, although I have never found the eggs or larvae. Unless the *stegomyia fasciata* has previously bitten a person suffering from yellow fever, it is as harmless as the *culex*, and we need fear nothing from this source unless some yellow fever refugee should drift into this section. If you have formed the opinion that the yellow fever mos-

quito does not exist here, and that we are free from infection, that is a mistake, for they do exist here, although in very limited numbers.

The stable fly is another insect common in this county which has recently been placed in the list of disease transmitters. This insect differs in size, shape and color from the common housefly. It is noticed most frequently on horses, and is a fierce quick biter. It is yellow in color, with black dots on yellow wings. It is said to transmit the germ of spinal meningitis, but whether it belongs to the first or second group, I am unable to say. An epidemic of infantile paralysis occurred on the left fork of Straight Creek two years ago, but what relation its spread bore to the stable fly I am not able to say.

I would not consider this paper complete if I failed to mention one insect so common to the homes, not only of this county, but elsewhere, the *cimex lectularius* or common bed bug. This insect is too well known to need any description at my hands. So far he has been able to prove an alibi every time an attempt has been made to incriminate as a transmitter of disease. For my part I have never been able to dismiss from my mind the suspicion that there is some relation between the bed bug and pellagra. Every new case that presents itself to me seems to prove a "house infection" and to my mind no insect so fittingly fills the bill in this case as the bed bug.

HYPERTROPHIED TONSILS.*

By EDW. WILSON, Pineville.

Hypertrophied tonsils are one of the most frequent pathological conditions with which the general practitioner has to deal.

They consist of a proliferation of the lymphoid elements with an increase of the connective tissue stroma.

Children may be born with enlarged tonsils or they may develop at any age prior to puberty, and, there is a decided hereditary tendency in certain families. I have done tonsillectomies in as many as six out of a family of eleven. If we find enlarged tonsils in one child of a family we may look for the same in other members of the same family if the family be large.

The clinical symptoms of enlarged tonsils are familiar to us all. The most urgent symptoms calling for tonsillectomy are repeated attacks of tonsillitis or tonsillar abscess and nasal obstruction evidenced by mouth breathing and snoring, also repeated attacks of earache or deafness.

A rheumatic tendency accompanied with

*Read before the Bell County Medical Society.

anemia calls for removal of the tonsils if they are enlarged.

Any or all of the above mentioned symptoms may be produced also by adenoids alone or combined with enlarged tonsils.

Tonsils are best removed under a general anesthetic, preferably ether. After the patient is anesthetized the gag and tongue depressor are placed and held by the anesthetist. The tonsil is seized with a tonsil holding forceps and separated above and in front with a tonsil separator, the wire of the snare is placed around the base and the tonsil is slowly snared off. After the tonsils are removed the adenoids, if present, should be scraped out with an adenoid eurette.

THE DIFFERENTIAL DIAGNOSIS OF
THE DISEASES OF THE EYE AND
EAR MOST COMMONLY MET
WITH BY THE GENERAL
PRACTITIONER.*

By J. P. EDMONDS, Middlesboro.

The diagnosis and proper treatment of diseases of the eye and ear do not receive appropriate attention in the mountain districts, especially, diseased conditions of the ear are overlooked and are never cared for as they should be and the general practitioner having so many other things gives these branches but little thought.

The early detection of disease renders its cure probable and unless we see cases early they cannot be properly treated and many of them we do not see until it becomes chronic, the child with sore eyes goes to school to mix and mingle with others and no doubt transmits it to many others and we do not see the case until the mother tells us, then we see some of the sequelae incident to such cases, partial blindness, ulcers, scars, entropion, all with a profuse discharge and swelling of the lids. In the poor class long treatment is out of the question and they are forced to go through life without help.

It costs about \$15,000,000 annually to care for about three hundred thousand blind people in the United States, most of whom are blind through ignorance and lack of intelligent supervision.

First, taking up the most prevalent diseases of the eye, every case presenting itself and of short duration, is simply called sore eyes and are amenable to mild treatment and usually subside in a short time. Those of long standing or because they are chronic, do not seek a physician until an exacerbation or until the eyes get very sore, in the language of the patient: "I had the sore eyes about six

months ago and Dr. So and So cured them" when if they were examined carefully we would find an entirely different condition. Here in the mountains we see a great deal of trachoma which is very difficult for one that does not see these cases daily to make a differential diagnosis. At Ellis Island, New York, they are held in detention house for several days to make a diagnosis. In the outlying districts, the average physician calls it "granulated lids." These cases are considered dangerous diseases. One had better have smallpox than severe trachoma. It takes a long continuous treatment to cure, then there is danger of recurrence. I have within the past four months, had eight cases come to my office, rather led in, they could not see to walk. I do the scarification and grattage operation then rub them every day and every other day for a period from three to six weeks or until every trachoma body disappears. In all but two cases I have gotten a cure and these two did not come to office as directed. We see them in our schools and in public places where other children are and no steps taken to isolate them. In diagnosing you usually get a history in some that they have had sore eyes all their lives and have been cured several times. In the acute cases the conjunctiva is swollen and a profuse secretion is present and very painful, on examination the conjunctiva of the lids is studded with little bodies resembling millet seeds, these produce so much friction on the cornea that a membrane begins to grow down over the cornea filled with blood vessels. This is called pannus and is always more or less seen in all chronic cases. The vision is lowered and patients protect their eyes by partially closing them from excessive light. The eyelids droop and ptosis develops from a thickened condition of the palpebral conjunctiva and swelling of the tarsal cartilage. Every physician knows or should know from the history of the case just what he is dealing with but in most of the cases, the patient is given an eye wash and the doctor leads himself to believe that a cure will be the result and these cases, if watched carefully, can be eliminated from the milder forms of inflammation.

Then we have some forms of inflammation that will mislead the general practitioner if he does not go thoroughly into the history of the case. A mild attack of iritis is usually called simply sore eyes. These patients usually complain of severe headache at night. Eyes hurt and a great deal of photophobia during the day with but little lachrymation when in conjunctivitis there is profuse discharge and a sensation of sand in the eyes. In looking at the eyes closely we see the conjunctiva very red and congested, in simple

*Read before the Bell County Medical Society.

conjunctivitis the superficial blood vessels are the only ones involved, while in iritis, the deeper blood vessels are the only ones involved and thus we do not have much discharge. There is a pink zone around the iris with pupil contracted showing there is considerable inflammation in the ciliary body. These cases are the hardest for the general practitioner to diagnose and he should be very careful in giving a prognosis. Unrecognized and neglected conditions often become incurable. The early recognition of disease joined with intelligent medical interference will minimize sickness, ignorance and crime.

In taking up the diseased condition of the ear that is commonly met with by the general practitioner, our attention is first directed to a case when told that the child has an earache we should be very careful as to the history, the onset, and number of attacks, or how long the child's ear has given it trouble. The careful and painstaking doctor will examine the child's ear and if pus is found he will clean it out to ascertain the damage done to the tympanic membrane and try to locate the source of the pus and then he will examine the posterior rhino-pharynx for adenoids or epipharyngitis. How many do this? If you would take more pains to see what is the trouble you would treat these cases more conservatively and thereby save the little sufferer from the dangers incident to such conditions. If the infection is due to adenoids they should be removed. If due to epi-pharyngitis, it should receive appropriate treatment. Having removed the cause of tubal infection, that in the tympanum tends to disappear with little or no treatment, however, the infection in the middle ear is attended by pronounced tissue changes that needs additional local treatment. The ear should be examined carefully and if the drum membrane is found to be bulging, it should be incised at once to liberate the pus which is usually found in these cases with a severe pain and a temperature and should not be let alone to wait developments, when these cases are not treated as above, they usually rupture in the course of a few hours and then we have a sloughing perforation in the membrana tympanum. They signify simple infection in the cavum tympani, probably of tubal origin, and you may have a destructive process going on in the middle ear. If the perforation is central, the infection is simple. If you have marginal perforations, this signifies bone necrosis. These are usually of the chronic form, and will result in mastoiditis unless treated energetically.

The general practitioner usually does not carry a mirror and not being conversant with the smaller details does not recognize the very

important lesions. These cases can only be treated by establishing drainage, by keeping the canal clean and if the perforation is small, a myringectomy should be done to enlarge the opening, then pack the canal. Be sure to place the gauze against the drum, then pack it loosely. If you fail to get it in contact with the drum, the gauze will act as a dam and what you want to accomplish will be unsuccessful. Don't treat aural pain and light discharges as if it was a natural consequence. Try to impress on the child's parents the necessity of treatment. Don't allow them to apply poultices. It would be far better that you do nothing. A pain in the ear denotes a blocking up of secretions and some infectious process going on. Find out the trouble, then do something. I wish to recite a case of simple tubal infection of long standing that recently came into my office. Patient was suffering with pain in his ear of two weeks' duration, saying that the doctor had burned it and scraped it out. I found the ear full of sweet oil which had been prescribed by the doctor. I irrigated the ear thoroughly and found the drum bulging and tense. This is a condition hard for the general practitioner to recognize unless he is very familiar with the landmarks of the membrana tympanum. I cocaineized the drum and did a myringectomy opening the drum with a long incision behind the handle of the malleus then I inflated the Eustachian tube and pus came out into the canal very freely. This case was entirely relieved in a few hours as the patient expressed himself that he could hear better than with the good ear.

If the acute cases are treated energetically from the beginning the cure usually results in a few days. If let alone, the case becomes chronic and the pus continues to flow for two or three weeks, then we know that a destructive process is going on within the middle ear, and all cases with a profuse discharge for two weeks or longer, are considered chronic and need operative interference, but very few have anything done and the case goes on until deafness is well established and the patient goes through life with a discharge from the ear with chronic mastoiditis, which is like a loaded gun. There are many patients that cannot be treated because of insufficient funds and therefore never have anything done.

This is a very large subject and I have only covered a few of the minor points and have not gone into it as deeply as I might have done.

CESAREAN SECTION.*

By E. M. HARRISON, Fork Ridge, Tenn.

Cesarean section, the subject chosen by your committee for me to discuss, has been generally defined as the operation for removing the fetus by opening the abdomen and incising the uterus.

Although this operation was performed hundreds of years ago by ancient surgeons, it has not come into the popularity which should have been accorded it, on account of its life saving proclivities, until during the latter part of the past century, but now, thanks to the almost perfect technique, that goes hand in hand with modern surgery, obstetricians are more and more resorting to its use, abandoning the more crude and unscientific mutilating procedures, which were absolute death to the fetus in every instance and more than likely the death of the mother also.

Among the ancients Cesarean section was only performed immediately after the death of the mother with the idea of saving the life of the child; Cæsar having been among the first to have been delivered in this way, the name Cesarean section was given to this operation. At the present time we more and more perform this operation with the purpose of saving the life of the mother as well as that of the child, with such fortunate results that to-day the rate of mortality in selected cases is much lower than in any other abdominal sections.

While there exists records of this operation having been performed upon the dead mother much earlier, it is not until in the fourteenth century that we find instances of it being performed upon the living subject, it then assumed some degree of popularity but rapidly came into disrepute on account of its high mortality, occasioned by sepsis and hemorrhage, for this reason Pare and Mauriceau, authorities in that day and time, condemned the operation, and so then as it is now when the authorities condemn the rank and file fall in line and no matter how good a thing is it is pushed to the wall and allowed there to cling until some venturesome spirit casts aside the mantle of so-called authority and relying on his own indominate courage brings back into existence some heavenly endowed blessing for mankind, and so with Cesarean section it was practically abandoned until Perre, in 1878 resurrected it, improving the technique of the operation by amputating the uterus and sewing the stump in the abdominal wound. In the first operations the uterine wound was left open, because the belief existed that the alternate contractions and re-

laxations would make the stitches tear out. The wound having been left open and gaping would finally close by adhesive inflammation to the abdominal wall. The scar thus formed was liable to rupture with the formation of hernia. It was not until in the beginning of the present century that uterine suture was advocated and practiced, but notwithstanding the mortality remained excessively high until Perre advocated his idea of amputating the uterus. To Sanger of Leipzig is due the greatest meed of praise for proposing, in 1882, the closure of the uterine wound by multiple sutures, and since the introduction of this operation, craniotomy and the other mutilating operations upon the living child have been practically abandoned by thoroughly up-to-date obstetricians.

Cesarean section should be performed in the interest of mother and child or of either when safe delivery can not be promised by other means, as version or forceps. If the mother is in a dying condition and the safety of the child demands speedy delivery the operation should be performed to save the child.

It is sometimes very hard for us to decide as in the case where it is impossible to save the life of the child in any other way than a Cesarean section, though the mother may be safely delivered by one of the mutilating operations, then the question arises, have we the right to sacrifice the life of the child in the interest of the mother or has she the right to demand it of us, shall we weigh one life against the other; shall we deliberately destroy the life of the child by craniotomy or other similar operations or shall we on the other hand jeopardize the life of the mother by Cesarean section in the hope of saving the child; these are serious questions for us to decide and decision should only be made after consultation with a fellow practitioner and then only after plainly laying open the facts to the mother and her friends and then in advising them let the decision rest with them retaining to ourselves the privilege of retiring from the case should our advice not be accepted. Though we as obstetricians may know that Cesarean section should be performed we are not justified in doing so until consent of mother is obtained whenever her mental condition is clear for her to decide.

As for myself I am thankful that it has never occurred to my lot to deliberately perform craniotomy or any other mutilating operation upon a living child and so has my resolution been laid for the future never to do so believing that no one has the right to take that which he can not give, knowing that there are other means by which this life may be saved and that the added danger to the

*Read before the Bell County Medical Society.

mother's life by Cesarean section is not more than the danger she would incur by prolonged mutilating procedures.

Cesarean section should be performed when it is impossible to deliver the fetus through the natural passages on account of extreme pelvic contraction through arrested development so that the conjugate diameter is 2 1-3 inches and the child is well developed and at full term, or when the lumen of the canal is obstructed by abnormalities due to rickets or osteomalacia, or to bony tumors, also when tumors of the soft parts obstruct the way, as fibroids or cancer. Malpositions of the uterus often constitute an indication for Cesarean section. Very frequently following operations of ventrofixation at following pregnancies it becomes necessary to perform Cesarean section on account of the os pointing towards the sacrum and the strong adhesive bands not permitting the uterus to descend. Placenta previa may be considered an indication for Cesarean section, there are on record numerous cases in which this operation was performed for this cause. Malpresentations that can not be changed to normal presentations by the usual methods constitute an indication for Cesarean section. Eclampsia, where the os is very rigid and early delivery is imperative, can be considered as an indication. Acute nephritis has been considered as an indication. Threatened rupture of the uterus by forceful contractions during labor, as also constitutional diseases, as valvular heart lesions and sclerotic conditions of the blood vessels, are indications for Cesarean section. Malformation of the uterus and birth canal, such as double uterus and vagina have frequently complicated labor so that Cesarean section had to be performed. It may become necessary in the separation of normally implanted placenta where the uterus will not contract to perform Cesarean section and to amputate the uterus. In cases of marked stenosis, and where delivery is complicated by pelvic and abdominal tumors, it may become necessary to perform Cesarean section.

The time to operate in cases of Cesarean section where we have realized that this procedure must be carried out before the actual commencement of labor is very much in dispute, some operators wait until labor has commenced, believing that thereby they have the advantage in the dilated cervix affording free drainage and lessening the danger of hemorrhage; others operate several days before the expected date of labor. The operation before commencement of labor is preferable in that thorough preparation can be had and skilled assistants may be obtained, the fear that lack of contraction of the uterus

may allow severe hemorrhage is unfounded because sufficient contraction does occur whether labor has or has not set up as also the lack of drainage through the undilated cervix can be avoided by forcibly dilating and inserting gauze. Also the membranes may have been ruptured before the operation which is a disadvantage.

The method of operation is elective in most cases; whether we perform the classic Cesarean section or whether some of the modifications should be chosen depends upon the indications; in cases where septic conditions of the uterus exist and where through long continued labor and through repeated examinations and attempts at delivery by forceps it is almost certain that infection will develop, the Porro operation of amputating the uterus should be performed, as also where cancer of the uterus complicates, the entire uterus should be removed.

The classic Cesarean section, where the abdomen is opened by incision in the median line and opening the uterus through the peritoneal cavity delivering the child thereby, has been modified in various ways so that now the elective method of operation may be chosen from among the classic or peritoneal route, the extraperitoneal, the vaginal and the method of amputating the uterus. Whatever method of operation is chosen it is highly imperative that thorough antiseptic and aseptic precautions must be carried out and that sufficient skilled assistance must be obtained so that no hitch in the proceedings may occur as time is an important factor in this operative procedure as in all major operations.

The abdomen and vagina must be thoroughly made as near aseptic as possible by the usual methods of preparation; there must be on hand some preparation of ergot suitable for hypodermic use and a long elastic tourniquet.

The elastic Cesarean section, the one I have employed in the few cases that have been under my care, may be carried out by making a long incision through the median line or to one side from immediately above the symphysis to above the umbilicus and with the patient in the Trendelenburg position after walling off the exposed abdominal skin area by clamping sterile gauze to the peritoneum, the uterus is delivered through the wound and covered by hot sterile towels, the rubber tourniquet is placed around the lower uterine segment tightened and held by an assistant, the abdominal cavity being thoroughly walled off, incision is made in the median line of the uterus commencing just above the lower segment with knife and afterwards extending upward for about five or

six inches with scissors; no matter where the insertion of the placenta may be, or is it necessary to spend time detaching same should it happen to be under the place of incision, the child should be immediately delivered through the opening, umbilical cord clamped by artery forceps and cut, and then handed to an assistant, the membranes and placenta are quickly peeled off and detached, the opening in the uterus is closed by a continuous suture of ten-day catgut, first through the inner muscular coats, care being taken to extend through the decidua lining commencing at the upper angle of the wound and extending to the lower, by tightening this the uterine cavity is shut off, the same ligature is then continued through the balance of the muscular coat, tightened and then the third layer is made by an over and over stitch completely buries the lower two and brings the peritoneal surface together: by this method sinuses are avoided, the lower sutures are completely buried, the separate ligatures are not liable to slip as in interrupted stitch, liability or oozing between the ligatures is avoided, there is no rolling in of the cut surfaces and no eversion of the lips of the wound; some operators prefer the use of silk and of interrupted sutures; when silk is used the stitch becomes encysted and frequently gives trouble later, not being absorbed as is the catgut in a few days.

Some operators prefer not to tighten the tourniquet until after the child is delivered for fear that pressure for any continued time will cause paralysis of the muscular coat and prevent contraction there by causing hemorrhage later; but this fear is not well founded in my opinion for in the cases that I have seen immediate contraction takes place where the tourniquet was applied from the beginning; where the tourniquet was not used the hemorrhage is something fierce and by obstructing the field of operation delays the rapidity of performance on the other hand where the tourniquet was applied and tightened before incising the uterus the loss of blood is in fact nil, not being nearly as much as is lost in normal labor.

The Porro operation is carried out as is the classic one with the addition of amputating the uterus, sewing the stump into the abdominal wound or after covering with peritoneum is allowed to drop into the abdominal cavity.

In both the classic and the Porro operations the abdominal wound is closed by the usual methods in other abdominal sections.

The extraperitoneal operation is performed by making transverse incision through the abdominal walls just above the symphysis from one superior spine to the other down to the sheath of the rectus muscle which is rais-

ed and the muscle separated by handle of knife exposing the transversalis fascia which is penetrated laying bare the peritoneum, this is then separated from the pubis and bladder laying bare the lower uterine segment, this is opened in the vertical direction and the child delivered without much trouble on account of the large lower segment, the uterine wound is closed by interrupted sutures and the abdominal one by the usual methods.

The mortality in early operations was very high, as much as fifty per cent.; by improving the technique the mortality has steadily diminished until now in selected cases the rate is not more than two per cent.

The superiority of Cesarean section over the other methods of delivery, as the mutilating operations, has been proven beyond any conception of doubt, statistics showing that the rate of mortality is much lower.

Rupture of the scar resulting in hernia after Cesarean section, is prevented by securing exact apposition of uterine and abdominal wounds and healing without infection; treatment of hernia is by suturing the tear, the Porro operation or hysterectomy.

TYPHOID FEVER AND ITS PRACTICAL MANAGEMENT.*

By T. T. GIBSON, Middlesboro.

When called to see a case of suspected typhoid fever, we first consider the hygienic management, as it will not detain us long let us briefly consider it here.

It goes without saying that the patient's environment should be made as pleasant and cleanly as possible, as the siege is usually a long and trying one. The room should be light, pleasant and removed as far as possible from all noise. All unnecessary furnishings and hangings, etc, should be removed. A bare floor is best and most easily cleaned. The bed, if possible, should be low and have a reasonably firm mattress, all linen to be changed frequently. The dishes and utensils used by the patient should be kept clean and separate and apart from those used by the rest of the family. A separate thermometer should be used by fever cases. The physician should see that the stools, urine, sputum, and vomitus are promptly disinfected, as this is the chief means of propagation of the disease. As to the means I'll mention the best and most easily obtained in their order of efficiency. Fire, bluestone and fresh slacked lime or white wash. A chart of everything should be kept by a nurse or member of the family. A change of position occasionally should be insisted upon to prevent congestion

*Read before the Bell County Medical Society.

and the formation of bed sores. Generally speaking, the fewer the visitors, the better for the patient. The mouth and tongue should be kept clean throughout the disease, and the body should be kept clean by daily sponges. With this brief hygienic introduction, let us proceed at once with the subject.

The primary or essential conditions necessary to the successful management of a case of typhoid fever are comprised under the following heads:

First, rest in bed.

Second, liquid diet.

Third, intestinal antiseptics.

Fourth, management of special symptoms, should they arise.

Fifth, general supervision during the period of convalescence.

FIRST—REST IN BED.

This factor may be of considerable importance along the line of prognosis. The doctor should insist upon the patient going to bed as soon as he suspects typhoid, even before he makes his diagnosis, as a patient with fever is best off in bed from any cause. It is notoriously true that the individual who in spite of his doctor's advice, persists in remaining up with considerable fever, declaring boastfully, "that he only has a touch of malaria" and that he will soon "wear it out," is usually the type of case that has a hard time. Most always this type is forced to bed with resistance impaired, strength gone and heart threatened, and frequently has a sudden and ugly hemorrhage a few days after taking his bed, at any rate his case is prone to be unusually severe. Occasionally we see them a long distance from home, upon being told of their probable condition they insist upon being bundled up and carried home. With but few exceptions, the physician should always advise strongly against this. They should not even get up to empty the bowels or bladder until some days after the fever subsides and he is put on a semisolid diet, then he may be allowed to sit up at short intervals and then as strength returns he may gradually be allowed to get up and out.

SECOND—A LIQUID DIET.

There are three standard articles which may be obtained anywhere and everywhere, from the slab hut of the mountains to the palatial residence of a large city. They are, in order of their importance, milk, eggs and meat. From these three, either directly or indirectly, may be prepared a dietary sufficiently diverse and nourishing for any and all cases of typhoid fever, milk standing deservedly at the head of the list, as it can be taken longer with greater benefit and less discomfort to the patient than any other single article of diet in quantities of 4, 6 or even 8 ounces

every three or four hours during the day, according to strength and digestive capacity of the patient.

Eggs.—Good, fresh eggs certainly take easily second rank from the standpoint of general utility in the dietary of the typhoid fever patient. They may be prepared in many different ways and one good way is to put the white in a few ounces of cold sweetened water and flavoring with a few drops of fresh lemon juice.

BROTHS AND OTHER DIETARIES.

Broths made from chicken, beef, mutton, veal and squirrels may be added occasionally as a change of diet, care being taken to skim from the top all fat globules and to strain through a muslin cloth to avoid solids, salting to suit the taste. Brandy and whiskey in small amounts, properly used, belong here, as well as in the class of stimulants. Orange juice should be used occasionally.

A patient with typhoid should never use less than one to two pints of pure cold water in the twenty-four hours regardless of other fluids ingested, even if they are delirious and cannot ask for water, usually they will take it if it is put to their lips, which should be done in such cases. No solid food should be used until the temperature has been down to normal for a period of at least ten days, then they should begin with soft milk toast and soft boiled eggs, then gradually work their way out to the full diet of the table. In many instances it is best to aid digestion just at this period.

THIRD—INTESTINAL ANTISEPTICS.

It is absurd to claim that we can take a man in the middle of an attack of typhoid, a man with high temperature, delirium, etc., and bring about a marked and sudden improvement by the use of intestinal antiseptics, and is it not equally absurd to say that intestinal antiseptics are absolutely of no value in any stage of the disease. With all due respect to those who claim they are useless, experience teaches us these general principles: The earlier we get hold of a case and the cleaner we keep the intestinal tract in that same degree and proportion is the attack milder and shorter and freer from complications. But, say our critics, typhoid fever is a systemic not a local disease. True, and we are willing to acknowledge even that a few cases of typhoid fever have been reported by Welch in which there was no enteric lesion at all. These cases were pathological curiosities and not of special clinical interest. In most all cases we know that the intestinal tract is not only the chief point of involvement but it is likewise the point of entry—a gate through which the bacilli must pass to get

into the general system. We do not expect our intestinal antiseptics to get into the systemic circulation and there mounted upon the backs of the leucocytes to go madly chasing in search of typhoid bacilli, and having found them to pounce upon them, and kill them, but we do expect and obtain results with them by rendering the intestines a less habitable place for bacilli in a way controlling decomposition and fermentative changes, preventing the formation and absorption of various toxins and thus do away with a great deal of antioxi-cation which later, if permitted to continue, makes all cases graver.

I shall not in my limited time enter into the relative merits of the various antiseptic drugs. It is sufficient to say that with my limited experience, I have obtained best results with subnitrate of bismuth, salol and urotropine combined.

FOURTH—THE MANAGEMENT OF SPECIAL SYMPTOM, SHOULD THEY ARISE.

It is always our hope, of course, to keep as many of the symptoms from arising as possible, however, they will bob up sometimes perhaps because of us and certainly sometimes in spite of us. I shall mention a few of the more important of them and give the treatment briefly:

(a) *Fever*.—The best and most useful single measure throughout the whole course of the disease for fever is hydrotherapy, either luke warm or cold water as the case demands may be used, and the patient should be sponged every three or four hours when the fever is above 102. High fever in the first stage often responds to free-elimination. High temperature late in the disease means generally systemic toxemia and exhaustion and demands hydrotherapy and brisk stimulation.

(b). *The Heart*.—We seldom see a case of typhoid fever, however mild, where the heart should be permitted to struggle through an illness of from four to eight weeks or more without some support. When to give them should be determined from the patient's condition. Some need them during the second week while some may go well into the third or fourth week. As to the stimulation used, they number many with strychnine and alcohol in the shape of whiskey or brandy at the head of the list.

(c). *Hemorrhage*.—In any form of intestinal hemorrhage, if it is due to the breaking of a blood vessel, and surgical intervention is not applicable, I have long maintained that nature is the chief factor in stopping the hemorrhage, and the good which we can do must be along the line of assisting nature's efforts. We must in a sense let the heart

partially run down, and always resist the inclination to stimulate immediately. I have gotten some mighty nice results with morphine, argotole, adrenalin chloride hypodermatically to quiet the patient and to check a profuse hemorrhage. An ice bag on the abdomen and the foot of the bed elevated is very useful. Give nothing by the mouth that would embarrass the intestines or keep up peristalsis. Never try to obtain a movement from the bowels for at least thirty-six to forty-eight hours or sometimes longer, after a profuse hemorrhage, then use an enema of soap suds. Use only a small amount of pre-digested nutriment.

(d). *Perforation*.—Perforation, the most dreaded and fatal of all complications, demands prompt surgical aid. If this cannot be obtained, then we must perforce follow the expectant plan, viz. opium for pain, heat applied locally and stimulation.

(e). *Tympany* can sometimes be relieved by introducing a tube into the bowels, permitting the gas to escape. Turpentine used internally by mouth or enema with soapsuds or stupes will relieve most of them.

(f). *Constipation*.—Calomel, alone or combined with podophyllin in the beginning and our old friend castor oil gives some mighty happy results with a few drops of turpentine added occasionally. If you have just had or fear intestinal complications it is best to depend upon enema alone. Except in case of hemorrhage or perforation never allow the bowels to go over forty-eight hours without obtaining a movement.

(g). *Diarrhœa* needs no treatment except where there are more than three or four stools a day. If so a little calomel and push other intestinal antiseptics, astringents and bismuth salts.

(h). *Insomnia and Restlessness*.—In many instances can be relieved by sponging. Occasionally a dose of some mild hypnotic may be necessary. Avoid them if possible.

(i). *Delirium*.—Ice cap and sponging and stimulation. Avoid morphine if possible although it is necessary sometimes to give it to enable exhausted nature to pick up the dropped threads and move on again.

(j). *Cystitis*.—My best results have been obtained with urotropine.

(k). *Bed Sores* are more easily prevented than treated by keeping the patient clean, all wrinkles from the bed clothing, and bathing with alcohol, and change of position occasionally.

(l). *Muscular Soreness*.—Sponging, massage and alcohol rubs.

FIFTH—GENERAL SUPERVISION.

During the period of convalescence. At this stage of the disease the typhoid patient is like an individual about to drown near the shore. Usually the doctor leaves about the time the fever does and at best the patient is an emaciated, weakened and threatened individual. The intestine in places is thin and sometimes there may be only a thin layer of peritoneum between life and death; the digestion is crippled, the blood is impoverished, the strength is gone, and he needs a guide, so see your typhoid cases occasionally for a few weeks during convalescence.

In conclusion permit me to say that the mortality of typhoid is lower now than formerly and the clinical picture is as a rule not so severe as it was in olden days. This is due in part to a better understanding of the disease but chiefly to better and more scientific and practical management. Very old text books on typhoid fever speak more of the post-typhoid lesions than they do of the disease itself, that is phlegmasia dolens, spinal trouble, insanity, neuritis, etc. Relatively speaking, we see comparatively little of these now. The change in the clinical picture is brought about by elimination freely, frequently and early, by the use of intestinal antiseptics rendering a less habitable place for bacilli, by diluting the poison so that they do not injure important organs like the kidneys, etc., by the use of water internally, externally, and eternally.

We keep down the fever and obtain rest and supply enough suitable nutrition to replace the waste tissue and then the patient is not permitted to live on himself so to speak. He does not become so emaciated and he is in the majority of instances brought to the shores of convalescence without being wrecked.

Biologic Test for Absorbed Sperma in Female Serum.—The research reported was done on rabbits. It demonstrated the presence in the serum of the female after cohabitation of a ferment that digested testicle tissue; beforehand the test had constantly elicited a negative response. The ferment reaction persisted positive in the gravid animals up to sixteen days after littering. Walstein and Ekler say that these findings indicate that the female organism is materially influenced by substances absorbed from the sperma, causing the production of a ferment hitherto strange to the organism. If these findings apply also to human beings, they would explain certain phenomena in the life of a woman which have hitherto been credited only to psychic processes. Possibly the ninhydrin test for the sperma reaction might prove instructive in certain medicolegal circumstances.

THE DUCTLESS GLANDS AND THEIR RELATION TO DISEASE.*

By O. P. NUCKOLS, Pineville,

In attempting to discuss such a subject as I have laid before me, in what is relatively a new field of investigation, I fully realize that much must yet be regarded, as hypothetical and not fully proven, when we come to deal with the internal secretions, and their relation, and influence on the body metabolism.

While this is true, the many developments of investigation along this line in the last few years in this field of work, has thrown much light on the subject, and we now know that the "ductless glands" furnish to the system internal secretions that play an important part in the normal body functions.

When we speak of the ductless glands, we refer to those glandular bodies, that do not pour their contents into an open channel by means of small ducts, to be carried away with other excretions, but rather to be retained within the glandular structure, and absorbed into the blood current itself.

Their secretions are referred to as internal secretions, because their activities are confined to the glands themselves, and by means of either absorption, or chemical messengers, known as harmones, they exert their influence on other and remote structures.

The comparatively recent theory that the ductless glands, are brought to bear an internal relation on the function of each other, through the medium of harmones, has thrown much light on many subjects that have hitherto been left in darkness. This furnishes at least a theoretical explanation of many of the varied manifestations, in that peculiar tripod of symptoms presented in Graves' disease.

That the ductless glands play an important part in the body metabolism is a matter easy of proof, from the observations of every day life. No doubt the father of organotherapy, that learned Frenchman Brown Sequard when his fertile brain became interested in restoring to man that "elixir of life" that would call a halt on the rapid march toward senility and impotency, he had in mind the buoyant days of his youth when the testicular glands began to surcharge the blood current with their chemie and physiologic force.

That the testicle has an influence on many developmental changes, can be proven both affirmatively and negatively, by the well marked changes of puberty, and the pronounced changes following castration, or disease of the testicle, or the more gradual changes of senility.

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The same marked changes in the female are noted at the age of puberty, and the climacterium. Experimental removal of the ovaries of the female, have been followed by as marked changes as removal of the testicle from the male.

It is with relation to the thyroid gland, and the para-thyroid, that we meet with the most interesting phenomena in connection with the "ductless glands," and the important role they play in the body metabolism. The congenital absence of this gland is followed by that condition known as cretinism, and many and varied are the cretinoid conditions due to this cause.

The hypersecretion of this gland, is soon followed by that tripod of symptoms known as exophthalmic goiter in the majority of cases. The pathology of this disease is somewhat in question, but there can be no reasonable doubt that it is due to the increased internal secretion of this gland, that acts as an intoxication directly upon the central and sympathetic nervous system, or through the means of harmones, and brings into play the many clinical symptoms that characterize this disease. This theory is proven true by the clinical fact, that the removal of a part of the gland, or the ligation of the thyroid artery, thus reducing this secretion in either case, and having relief to follow.

Just to the reverse of this condition, where all the nervous functions are heightened, and the retrograde processes are increased, we have that other side of the picture, produced by the decreased action of the thyroid body, asserting itself in some instances, as simply sluggishness and obesity, and in others as a true myxedema.

It is known that the secretion of the thyroid, contains a considerable per cent. of iodine, which may account for some of the symptoms present in either case. Co-incident with hypersecretion, we have rapid and extreme emaciation, and with sub-secretion we have a tendency toward corpulency, and sluggishness. It is a well known fact that iodine increases the retrograde process, and accounts for the emaciation in hypersecretion, and its absence in the cases of sub-secretion accounts for the tendency to corpulency, and the accumulation of intracellular poison in true cases of myxoedema.

Addison disease is the most familiar disease resulting from failure of the supra-renal bodies, and acromegaly that peculiar abnormal development of the osseous system, has been thought to be due to an adenomatous degeneration of the pituitary gland.

The amylolitic and proteolytic external secretions of the pancreas are well known, but the removal of this viscus is followed by

glycosuria, and it has been discovered by Mering and Minkowski, that this is due to the absence of the internal secretions of the islands of Langerhans, the individual cells of which produce a ferment that maintains the normal degree of glycosuria.

I have cited some of the most familiar, well-marked conditions, that have been reasonably well proven, to show some of the effects of the disturbance of the normal functions of the ductless glands, which tends to show that there is within the body, a force that has much to do with the inter-relationship of the various organs, and their harmonious workings, known as health. Many careful observers have come to regard the force of these internal secretions, as holding the key to the proper and healthful functions of the sympathetic nervous system, and that great teacher, Robert Bartholow, long before the function of the thyroid was known, taught that exophthalmic goitre was a disease of the sympathetic system. There can scarcely be any reasonable doubt that it is through the sympathetic nervous system that many of the symptoms are manifested in this class of diseases.

The question of blood pressure, arteriosclerosis, tachycardia, and no doubt many deviations from the normal, that we cannot as yet account for, may find their true explanation in the study of the internal secretions. Beebe, of New York, advises that in any case of rapid heart that cannot be accounted for by some organic or readily located trouble should direct our attention to the ductless glands.

It is a well established fact that adrenalin, pituitrin, both raise the blood pressure. That thyroid extract increases the heart's action, and raises the blood pressure in the kidney, and is the best treatment for cretinism and myxoedema. That ovarian extract mitigates many of the nervous symptoms of the climacterium, and that pancreatic extract benefits glycosuria. Now, reasoning from effect back to cause, these facts must prove the part these structures must play in controlling many of the body functions, and their relation to the body well being.

The natural result of the study of the ductless glands, has wonderfully developed the use of organic extracts in the treatment of diseases. However, organotherapy in its present form, and in its present scientific manner, is but a revival of some of the crude practices of ancient times, when the priests used the organs of animals as sacrificial offerings. Hippocrates and Celsus made use of various animal organs for the relief of those symptoms in man, which were thought to be due to defective action of the same organ, as the pidgeon or wolf's liver for hepatic diseases, the brain of the hare for the tremors, the lungs

of the fox for dyspnoea, and the remnet for stomach disorders. Pliny advised the use of the testicle of the donkey or stag, as an aphrodisiac, and the following prescription is found in Macbeth:

Filet of a fenny snake,
In the caldron boil and bake;
Eye of newt and toe of frog,
Wool of bat, and tongue of dog,
Adders fork and blind worms sting,
Lizzard's leg and owlet's wing,
For a charm of powerful trouble,
Like a hell-broth boil and bubble.

THE COMPLICATIONS OF TYPHOID FEVER.*

By B. E. GIANNINI, Straight Creek.

From my point of view typhoid fever claims and receives close study. Its wide distribution, insidious beginning, protracted course, debilitating effect, its accidents, complications and sequelae combine to make a clinical picture which though consistent as to outlines, is capable of varying widely as regarding its individual features.

The classical and schematic descriptions of the text books, however detailed and excellent, often fail to adequately represent the comparative frequency of aberrant symptoms. It is proper that our mind should be firmly fixed upon the main features of the disease, so as to secure, by a timely diagnosis advantages both for our patients and ourselves.

The occurrence of unusual symptoms, however, cannot fail to be of peculiar interest to the observant physician, and deserve record in the works of our profession.

There is such a long list of the possible complications of typhoid that to name them would be tiresome, therefore I will only call attention to the more important ones; perforation, haemorrhage, etc.

Perforation occurs in practically 5 to 6 per cent. of all cases of typhoid fever occurring mainly in the small bowel, however, recent investigations show that perforations may occur at remote points of the intestinal tract, a case reported by Lynn of perforation occurring at the junction of the pylorus and duodenum, however he states that it may have been the site of an old duodenal ulcer attacked by the typhoid infection.

Kelly concludes that about 5 per cent of perforative appendicitis is due to a latent typhoid infection plus a mixed infection. The recognition of perforations may be very difficult at times especially if the patient be in the classic typhoid state, dull and apathetic;

but when their condition is bright, about 75 per cent of all perforations are announced by the sudden acute abdominal pain, rapidly develop tenderness and rigidity, an early decline in temperature and an elevation of the pulse with the typical abdominal facies. If the pre-existing tympanities is great and the general symptoms already severe, the occurrence of perforation is very difficult then to determine.

Another of the much dreaded complications of typhoid is hemorrhage, occurs in about 3 to 5 per cent. of all cases and usually occurs during the third or fourth week, terminating fatally in from 30 to 40 per cent. of all cases. If the hemorrhage be very large and profuse death may ensue before its appearance at the rectum, its occurrence being characterized by a sudden fall of temperature with signs of collapse and in a few hours by the voiding of bloody or tarry stools.

Borley reports a case of hemorrhage from the auditory canal which was severe and repeated that gave rise to alarming symptoms, and a case of severe nasal hemorrhage occurred in my own practice that required continual packing.

Of the cerebral complications that arise possibly meningitis is the most frequent, as a large majority of cases have very pronounced cerebral manifestations, various neuritis occur and may be either multiple or single, the typhoid spine that occurs during convalescence is probably a neurosis. A case of ascending paralysis of Landry has been reported by Lyon with a paresis of the muscle of the larynx and pharynx, and a loss of the reflexes. The tender toes of typhoid seen after bathing and usually disappearing after convalescence is a typical neuritis.

Among the rarer nervous complications may be mentioned the typhoid insanity following the more malignant cases, hemiplegia with or without aphasia, and convulsions.

In mentioning the lung complications I should say that lobar pneumonia, hypostatic congestion, and with an associated bronchitis are the most frequent, while pleurisy which is more apt to be an empyema is not uncommon.

Endocarditis, myocarditis and pericarditis follow in the order named, thrombosis and embolism of the veins and arteries are less likely complications that may occur, the left femoral suffering the most likely involvement; a few cases of embolism of the mesentery of the jejunum have been reported with resultant gangrene.

Acute nephritis may usher in the disease, but is most usually seen in a mild form during convalescence; cystitis, pyelitis and perinephritic abscess may also develop. Hyperpyrexia is more a sign of the severity of the

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infection than a danger or a complication. A suppurative parotitis may supervene, usually unilateral and when present is usually a grave and fatal sequelae.

Instances of irregular fever, recurring chilliness or rigours are indicative of an existing septicemia.

In concluding, the earlier the perforation occur in typhoid fever the better the chances the patient has for a recovery if prompt surgical measures are brought to bear on the case, as is shown by Kelly, Murphy and others who give mortality statistics as being not nearly so high with prompt surgery stating that 20 to 30 per cent. of all cases of perforation are recovering from operative measures that is when the patient is not already far advanced in the disease, and *providing* the perforation occurs say in the second to the third week.

APPENDICITIS; OPERABLE AND NON-OPERABLE.*

By TILMAN RAMSEY, Pineville.

Of all the pathological conditions that the country physician is called upon to combat, there is none that gives him more anxiety than appendicitis. Is it operable or not operable? Shall he give opium or purgative and intestinal antiseptics? These are questions of which there is the greatest difference of opinion. So much so that we are left to formulate our treatment of each individual case.

To give opium is to mask all of the symptoms the most important guide we have, and to give to the patient and his friends a sense of security, they feel they are getting better, and often refuse surgical intervention until it is too late.

In the light of the pathological condition we have to deal with, to give purgatives to drain the parts is as rational as it would be to flush a main sewer line to open a blocked service line.

There is no medical treatment for appendicitis.

If all cases of appendicitis could be operated upon during the first twelve hours, the mortality of appendicitis would be nil.

WHEN TO OPERATE.

There is still such a divergence of opinions as to when it is best to operate leads one to the conclusion that we have no reliable index or guide.

The symptoms are a very treacherous guide, as frequently we find that the symptoms and pathologic process are out of all proportions, this disproportion being caused by the different combination of varieties of microorganism

taking part in the inflammatory process as when we have the Butyric acid bacillus and malignant edema bacillus present, we have a rapid and destructive process, accompanied by very mild symptoms.

With the hope of solving the perplexing questions Kohl undertook a study of the leucocyte count and neutrophilic count according to Arnett's system of a large number of patients suffering with appendicitis.

Kohl modifies Arnett's system of classification by counting only the number of neutrophils with a single nuclear segment. He finds this gives him quite as reliable information as the more elaborate method.

His conclusions are as follows: "In order for the leucocyte count or the neutrophilic picture of Arnett to be of much service, they should both be charted in the form of a curve."

"The leukocytes should be counted in every acute case of appendicitis, whether operation is to be performed or not. It is always to be taken into consideration in conjunction with the rest of the clinical picture, but it has fully as much significance as the curve of temperature or pulse. If it clashed with the other clinical symptoms, the curve of the neutrophilic blood picture must be brought to its aid."

"In general, it can be said that the neutrophilic blood picture, according to Arnett, is an expression of the virulence of the infection, whereas, the leukocytosis points on the one side to the degree of peritoneal irritation, and on the other side of the reactive power of the individual."

"Increased leukocytosis in connection with a normal neutrophilic blood picture or one in which the leukocytes with a nucleus of but one segment are but slightly increased, gives a good prognosis; the higher the neutrophilic blood picture goes, the more severe is the infection, and consequently the more unfavorable the prognosis. If the leukocytosis is increased, this is an indication of good powers of resistance, and consequently a favorable prognostic sign; on the other hand, a low leukocytic count, in the presence of a high neutrophilic blood picture, gives an unfavorable aspect to the case."

"A moderate parallel ascent of the curves is of more favorable significance than a sudden, rapid ascent of one curve or the other, or a crossing of the curves." "The most unfavorable cases are those of peritonitis with a very high neutrophilic blood picture, and a normal or subnormal leukocytosis. If after operation on such a case the neutrophile curve sinks and the leukocyte curve rises, the prognosis becomes better, the organism is overcoming the virulence of the infection."

*Read before the Bell County Medical Society.

"After operation there is occasionally observed a rapid ascent of the neutrophile curve, sometimes accompanied with decrease in the leukocytosis, and shortly thereafter a return of the curve to the normal. This postoperative ascent, which is presumably dependant upon the stirring up of a previously encapsulated inflammatory process, is of no significance in regard to the prognosis."

"A gradual steady rise of the neutrophilic blood picture after operation is an indication of great seriousness, as it signifies a progression of the infection."

"Primary or secondary abscesses are indicated by an increase in the leukocytosis while temperature and pulse may remain normal. If the leukocytosis decreases before the abscess is opened, it will in all probability be found encapsulated. With the increase in the leukocytosis there is usually, according to the degree of infection, a more or less marked increase in the neutrophilic picture."

"An early operation for appendicitis is indicated in all cases excepting those in which in addition to a very mild clinical picture, especially slight local tenderness, the leukocytosis and neutrophilic blood picture are either normal or only slightly elevated. In case of recurrence, immediate operation is indicated."

"If in conjunction with slight clinical findings, there is a marked leukocytosis, operation should be undertaken."

As a rule I should say operate in every case as soon as the diagnosis is made, unless the symptoms indicate that inflammatory process is in abeyance.

NORMAL LABOR AND ITS MANAGEMENT.*

By J. G. FOLEY, Pineville.

When I received a program of the Bell County Medical Society, and saw this subject had been assigned to me, it reminded me very much of the boy who had been doing things that he had been repeatedly told not to do, and finally on being asked as to what he himself thought ought to be done with a boy who would continue to do such things, he hesitated, but finally made this answer, "Just let him alone."

Since labor is a physiological act and normal labor has nothing to keep nature from completing that act, then why not give it the boy's treatment, just let it alone? However, it is necessary that a few conditions be looked after in all pregnancies, in order that they may all terminate as nearly as possible in normal labor, as the general condition of the

patient, the breasts and condition of the kidneys.

The patient should have, during the entire period of gestation, a wholesome, nutritious diet, consisting largely of fruits and vegetables; should be clad with loose, comfortable clothing; should have a proper amount of exercise, but not violent; should walk and exercise in the day time and in the sunshine, instead of evenings, as practiced at the present time. The care of the breasts receives but little or no attention at all in a majority of cases, yet this means much to the proper nourishment of the child, and comfort and future welfare of the mother.

Condition of the Kidneys. This, possibly, is one of the most important of all the conditions and cares in pregnancy, and one of the great many people in this country to engage hardest to manage, since it is the custom of a physician and call him into a labor case at the same time. Consequently, he is wholly unarmed, knows nothing of condition of patient at all. Quite often he is ushered into the room and the first thing to see is the patient in an eclamptic convulsion. It is my regular custom to get a specimen of urine from the whole amount passed in at least twelve hours, just as soon as I have been engaged to take care of a labor case, and examine it and keep this up weekly until confinement.

This brings us down to confinement, or active labor. Here it is useless in the present day to say the first thing to do when called to a labor case is to thoroughly clean up. After this is done, make a thorough examination of patient, so as to thoroughly know conditions in hand. If the patient is too nervous and sensitive for this to be done without an anesthetic, give her chloroform and make a thorough examination and make out your position and conditions, then don't examine too often. I know of no other place in the practice of medicine or surgery where the physician should be more in complete possession of all his senses than in a labor case. He should be kind, patient and careful and always keep in mind the fact that he has the responsibility of at least two lives in his hands, instead of one. As to the use of chloroform, personally I prefer to use it and do always use it unless contraindicated. After removing the placenta and seeing that contraction is good, the physician should always look after the cleansing and dressing of the baby and see that everything is alright.

During the confinement period, the physician should give instructions to the nurse as to the care of mother and child. Mother should be well fed on an easily digested, wholesome

*Read before the Bell County Medical Society.

and nutritious diet, and should be seen by physician himself each day, when possible, for a period of ten days, at which time she may be discharged, if conditions are normal.

MALPOSITIONS AND DISEASES OF THE FEMALE PELVIC ORGANS.*

By C. K. BRANTHEAR, Middlesboro.

I find this quite a lengthy subject and will only try to bring out a few points of special interest to the general practitioner.

The most fruitful source of disease and also malpositions is the gonococcus, by its inflammatory action and subsequent adhesions pulling all the pelvic organs out of their normal position and often binding them so tightly that we find their release quite difficult.

Malpositions are of all grades and all positions, forward, backward, up or down or to either side. Caused by, first, lack of support when the pelvic floor is torn or much relaxed from childbirth or some wasting disease, second, by relaxed ligaments, as the round or lateral ligaments, the utero-sacral ligaments, often help in the displacement, third, tumors either pulling or pushing. These tumors may be hard as fibroids, and dermoids, or an enlargement due to pus, blood, or a watery fluid.

Tumors may involve any of the pelvic organs, uterus, tubes, ovaries, broad ligaments or possibly the appendix.

Displacement and diseases depend on each other, the one being caused by the other so that they must be considered together and treated as a combination.

To arrive at a correct diagnosis requires a great deal of careful tact and discrimination as well as a full understanding of the normal, also a knowledge that very often considerable displacement causes no symptoms while again a displacement of much less magnitude causes much suffering. Often a posteriorly displaced uterus may cause no symptoms, but let an ovary be prolapsed and adhesive behind the uterus, may give quite severe pain and nervous symptoms.

Patients come complaining of discharge, pain, missed menstruation (think they have taken cold). Pain may be localized or general in character, covering whole abdomen or in fact many parts of the body. Often a woman who has borne children complains of pain, discharge, pain in back, bearing down feeling, painful menstruation, pain sometimes at defecation, or micturition.

This history always points to laceration of perineum, cervix and prolapse of uterus, which pulls on ligament. Fundus rests on soft structures in front of sacrum, causing trouble with bowels and disturbance of digest-

ion. The cervix against the bladder causes irritation of this organ with frequent, painful micturition.

Discharge from the cervix is thick and glary, can often be removed with difficulty. From the uterus, bloody, purulent or mucopurulent discharge. The bloody flow often coming every two weeks and lasting for several days or at times for weeks, in fact so irregular they cannot tell when to expect the menses. This is a general line of what we have in such cases, some of these symptoms may be lacking while others are most pronounced.

The women who have not borne children seldom give this same line of symptoms. She may have any of those mentioned, but seldom or never all of them.

Her most frequent cause of trouble is gonorrhoea, which after acute symptoms subside, are chronic discharge from the cervix and bloody or purulent of uterus often with periodic discharge from the tubes, and irregular menstruation.

Most of the adhesions in pelvis are caused in this class by the above mentioned germ and these adhesions are, in most cases, the cause of displacements found.

The most important and far-reaching after gonorrhoea is cancer. We can never be too careful in our examination of all cases especially those showing irregular discharge of blood and even in these we are often too late and can only say "if you had attended to this earlier something might have been done."

Cancer is more frequent in old age, but is not so seldom found in those who should be in the prime of life. In my limited experience, I have seen several cases under thirty years of age. The full blooded negro seems almost immune to cancer; I have seen only one case in a "sure enough" black woman and her mother was a mulatto. The only hope of curing our cancer cases is to make the diagnosis at the earliest possible moment and, in my judgment a doctor should never prescribe for a patient who gives suspicious symptoms without a careful examination. For who among us that has not had cases refuse to be examined properly and months later find them in a hopeless condition.

Tumors: Fibroid are found most often in the active childbearing period and especially in the colored race. Symptoms of same are pains from pressure or interference of some function, as the bladder, bowels or circulation. All fibroids of much size or if growing should be removed whether symptoms are urgent or not, as most, if left, will later show degeneration, often of a malignant character.

Pus from pelvic organs should be evacuated, *but beware of opening the abdomen with*

*Read before the Bell County Medical Society.

acute pus tube. If they are large and prolapsed they can be drained through the vagina, but should seldom be attempted through abdominal wall. Put these patients in bed and give nature a little time and most acute cases will subside to a point where an appropriate operation gives promise of success.

Often these chronic cases, when adhesions are not too strong, can be symptomatically cured by using depleting tampons, massaging and stretching adhesions, using electricity and tonics to build up the general system.

Other tumors, such as cysts of ovary are often found. These are seldom serious in themselves unless quite large, but are subject to complications, such as strangulation and adhesions to the surrounding organs. All cysts should be removed if condition of patient will permit. The appendix often becomes a pelvic complication in these cases under discussion and should then be dealt with as such.

I have taken this subject up without order, but such we find them in general practice.

BACTERIAL DISEASES AND THEIR PREVENTION.*

By JACOB SCHULTZ, Logmont.

There is no branch connected with the science of medicine that has made such rapid progress and unravelled so many mysteries as that of bacteriology; by the use of the microscope, the great microscopic world has been revealed and it is proving, with all its mysteries and phenomena, to be uniquely organized and governed by laws as well defined as those governing our universe and the planets which deck the great canopy of the heavens.

It is only the untiring efforts of the bacteriologist, who has made it possible for us to discuss this subject scientifically. Durnig the short time in which he has been exploring what has heretofore been an unknown realm, he has taken the pick and shovel of the mine, and, digging here and blasting there, he has penetrated great barriers which have hidden this great field of science and is now holding up to us pearls of countless value; he has gone to the bottom of a great many of our troubles and has given us facts which are indispensable with the scientific treatment and prevention of disease, we are no longer groping in the dark as to the real cause of disease, but we know beyond all question of doubt the etiology of many of our most prevalent diseases. Among them may be mentioned, tuberculosis, typhoid fever, malarial fever, relapsing fever, epidemic cerebro-spinal fever, Asiatic cholera,

ameboid dysentery, influenza, diphtheria, hookworm disease, syphilis, gonorrhoea, anthrax, tetanus, erysipelas and many others; these are diseases of bacterial origin and are due to the implantation, growth and multiplication of specific micro-organisms.

The initiation of these diseases are dependent upon certain conditions and it would be unreasonable to suppose that one typhoid bacillus, when taken into the intestinal canal, would cause a reaction sufficient to produce a case of enteric fever; the same is true of the other diseases of this class, therefore, the excitement of the disease is conditional upon the specific bacteria present, also upon the virulence of their type and the resistive powers of the individual.

The resistive power of the person seems to play an important part in acquiring many of these diseases, while in others, it seems to have but little influence. In typhoid fever, it seems, there is comparatively speaking, no respector of persons as it attacks the young as well as the old, the strong and robust as well as the weak, running its course regardless of any treatment known to our profession; but on the other hand, as in the case of tuberculosis, the resistive power of the patient plays the all important part. According to post-mortem examinations, two-thirds of all the subjects examined have, at some time, been infected with the tubercle bacillus, but, owing to the resistive powers of the patient, in the majority of these cases, the infection had not gained headway but had been completely incapacitated and the infected area walled off from the healthy tissue.

Here we see demonstrated the great protective forces of nature, how wise she is and what a great effort she puts forth to counteract and correct any wrong that is going on in her domains; she is always on her guard and the minutest microbe cannot invade her premises without her instant knowledge of the fact. After the invasion, it is her business to go after the intruder; this she does with all the force and energy at her command, she puts her regulars at work and calls upon her reserves and fights without ceasing until she overcomes or is overcome.

At this stage of the game, we may offer our assistance but this must be done scientifically, lest we hinder rather than help; we must understand, so far as possible, what she is trying to do and the method employed; we must not depress and weaken her forces by trying to overcome the infection by some theory of our own which we do not thoroughly understand. In many cases, it is true, we have a perfect knowledge of what is taking place and we have at our command the forces by which

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we may come to her rescue, clear up the field of battle and gain the victory; this is true in diphtheria, we know that diphtheria anti-toxin contains the very antibodies which the body of the patient is trying to manufacture; here the great man of science has given us the means by which we may come to nature's relief and win battles with her assistance, which, in the past, without our help, have proven too great for her forces.

The great fight which nature puts forth is conclusive evidence that she is struggling with an enemy whose ranks are strong and not lacking in diligence for bacteria are ever present.

For instance a Petri dish, filled with gelatin, and exposed to the air for twenty-four hours and then examined, will show colonies of various strains of bacteria scattered here and there all over the surface; these bacteria, of course, are not all pathogenic and well it is that they are not, but the disease producers are by no means scarce. It is claimed by some that the diplococcus lanceolatus is taken in with each inspiration; this is done with impunity, provided the body of the host is in proper condition, but, when the vitality is lowered by exposure to rain, cold, previous attacks, etc., this bacillus localizes at the *locus minoris resistentiae* and, the condition being suitable, they grow, multiply and cause a reaction on the part of tissue producing lobar pneumonia; of course, the bacillus lanceolatus is not the initiatory of every case of pneumonia as it may be due to various other bacteria but it is, usually, of the lobular type.

Since malaria has been proven to be due to a plasmodium, it has created a world wide interest among bacteriologists and scientists; to my mind, there has never been a greater piece of work done in the history of bacteriology; to trace the course of the plasmodium has attracted the highest powers of the microscope and the keenest eye of the scientist; to trace the tortuous course and the various changes which take place from the time that this plasmodium is drawn from the blood of a patient suffering from malaria by a mosquito—and that particular type known as the anopheles—is almost beyond comprehension.

The great progress that has been made in gaining knowledge of bacterial diseases has made wonderful changes in the treatment and prevention of disease and the fact has revolutionized the whole practice of medicine and surgery.

THE PREVENTION OF BACTERIAL DISEASES.

This is a question of the most vital importance and one in which all are concerned; the medical profession has been trying to educate the people along these lines and show them the

great importance of prophylactic measures; she has sounded the trumpet of alarm and asked the people to join hands with her and wage war against diseases which are depopulating their land and country, but, as strange as it may seem, the people are not awakened to this cry as they should be and their co-operation in the great battle against dreaded foes are lacking.

The medical profession is the only profession on earth that is striving earnestly day and night to tear down her own business; every true doctor feels it his duty to teach the people in every way possible how to live and care for themselves so as to overcome and prevent disease.

The bacterial diseases, if the proper precautions were taken, could be prevented and, in time, wiped out of existence, however, this can not be done by the medical profession alone but, with her leadership and the hearty co-operation of the people, the teeming millions of pathogenic bacteria could be put practically out of reach of most individuals.

The advantages we have to-day over our fathers of yesterday are great in dealing with these questions, the bacteriologist has wrought many wonders and given us a clue and key to the situation; by the discovery of the tubercular bacillus, we know that tuberculosis is due to the implantation, growth and multiplication of this bacillus, that the most frequent way of gaining entrance into the body is through the respiratory tract and that the sputum of tubercular patients is laden with this bacillus which, when dried, is ready to be breathed into the lungs of the first passerby: this gives us the knowledge of how to prevent the spread of tuberculosis and it is astonishing that, after gaining this knowledge, one death out of every seven, according to statistics, should be due to this disease. The medical profession is not to be censured for this condition for she has waged war and sworn vengeance from the beginning, she has organized societies and had laws passed trying to blockade the work of this awful malady.

The great issue in the prevention of tuberculosis is the care of the patient's sputum, it is easy to see how a tubercular patient by expectorating on the street may infect many others—there it remains and dries when the dashing automobile, the street car, the dray wagon, and the whipping of ladies' skirts put it in motion and millions of tubercular bacilli float freely in the air.

Tuberculosis is no longer considered an hereditary disease but, in every case, is due to the introduction of bacteria from without; that is one important fact and those who have a predisposition, a scrofulosis, should especi-

ally be on their guard and should protect themselves, as far as possible. They should sleep, work, and live in the pure air and sunshine which are incompatible to the growth of the tubercular bacillus.

In diphtheria, by the discovery of the Klebs-Loeffler bacillus, we are enabled to take certain precautions and thereby prevent the spread of the disease; first, by the discovery of this bacillus it has made it possible for a certain and early diagnosis; second, by examining the throats of convalescents we are enabled to fix the necessary quarantine term. After the diagnosis has been made, the patient should be isolated, the room which he occupies should not contain more than is necessary for the comfort of the patient, all curtains, pictures, books, etc., should be removed and no one allowed to enter the room except the nurse and the physician and if there are other children of the family they should receive immunizing doses of diphtheritic anti-toxin at once.

In typhoid fever we have a bacterial disease that is easily preventable and it is astonishing to think of the number of cases which occur successively in the same family and community; it is well known that the typhoid bacillus enters the body of the host through the gastro-intestinal canal and its media is most usually in the drinking water but may be contained in the milk or food so the question of prevention is only a problem of cleaning up and cleaning out and of keeping clean, getting on the war path and having a battle tearing down the hog pen which is an incubator for all kinds of germs, boiling the water you drink and thoroughly exterminating the flies.

The early fly is the one to swat. It comes before the weather's hot, and sits around and files its eggs and lays at least ten million eggs, and every egg will bring a fly to drive us crazy by and by. Oh, every fly that skips our swatters will have five million sons and daughters, and countless first and second cousins, and aunts and uncles, scores of dozens, and fifty-seven billion nieces, so knock the blamed thing all to pieces. And every niece and every aunt—unless we swat them so they can't—will lay enough dodgasted eggs to fill up ten five-gallon kegs, and all these eggs ere summer hies, will bring forth twenty trillion flies. And thus it goes, an endless chain, so all our swatting is in vain unless we do that swatting soon, in Maytime and in early June. So men and brothers, let us rise, gird up our loins and swat the flies. And sisters, leave your cozy bowers where you have wasted golden hours; with ardor in your souls and eyes, roll up your sleeves and swat the flies!

Secondly, by the use of typhoid bacterins,

typhoid fever may be and has been cut down wonderfully; this affords us great protection, we can not pick our places to eat and drink every time and we expose ourselves, knowingly, to this disease but we may by the use of the bacterins, establish an immunity which renders us safe against infection.

By the vigorous and untiring efforts of our State Bacteriologist, Dr. Lillian H. South, Chief Sanitary Inspector, Dr. A. T. McCormack, and their co-workers, in their war waged against hookworm disease in every county, town and district in the State, it is possible for the medical profession to obtain better co-operation on the part of the people, besides the many thousands that were cured of the above mentioned disease.

The prevention of bacterial diseases resolves itself into the problem of educating the people; the task imposes itself upon all, the doctor, the preacher, the lawyer, the editor and especially the teachers of our schools, to those who shoulder the burden success will come and bring with it an everlasting blessing to humanity.

THE END RESULTS OF THE HOOKWORM DISPENSARIES.*

By O. P. NUCKOLS, Pineville.

When asked by the Secretary of this Association to present to you a short paper summarizing the end results of the hookworm investigation in the State by the Rockefeller Commission, and your State Board of Health, I felt that it was a task that could have been passed to more competent hands, however, it is by the final results that we judge of all great movements, and designate them as either successes or failures.

In order that we may properly interpret the end results, it becomes necessary, first to present some of the primary conditions, calling for such an investigation. Until a few years back, the many fearful and sad results produced by hookworm infection were unknown and the appalling loss of life, to say nothing of the tremendous loss to the world of business from lowered vitality, and lack of productive energy, would amount to figures that would stagger all of our powers of conception. Thanks be to the investigations of the Rockefeller Commission, that the cause for this tremendous loss of life and power has been made known, and active measures taken to remove the cause. The investigation of hookworm disease in Kentucky, so far, has been largely confined to the eastern part of

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the State, and has been found to prevail, to a marked extent, in the coal fields and rural districts. The per centage of infection has been found to range from as high as seventy-five per cent. in some localities, to as low as fifteen per cent. in others. It has been further found to vary with the higher or lower standards of sanitation, and especially is this true with regard to privy vaults, and the proper care of the excreta.

The end results of the hookworm campaign may be summed up, first, in the effect it has had on those infected; second, the general effect it has had on improved sanitary conditions; and third, the increased respect by the public for the medical profession. Those who have been the direct beneficiaries of the campaign, are, of course, those who were the victims of this dreadful malady. Hundreds have been transformed from invalidism, whose lives were slowly, but surely ebbing away, to active and useful citizens. The pallid cheek of extreme anemia, has been changed to the ruddy glow of health. The listless eye of extreme debility, that looked in the face of death, has been transformed into the sparkling eye of vigor, and peering into a future of hope, happiness and prosperity.

If this were all, the time, labor and money would have been well spent, but the story is told only in part; the thousands that have been rescued before the infection became severe, have still greater reason to be thankful. The prevention of disease in its incipiency, is destined to be the practice of the future, and those who have been relieved of hookworm infection in its incipiency, have not only been fortified against this disease, but against the dangers of other complicating diseases, also. It is a well recognized fact that hookworm disease, paves the way for tuberculosis, and many other serious and rapidly fatal diseases. I made the claim in a paper read before this Association last year, that pellagra was in some way a by-product of hookworm disease, and I feel further justified in this opinion, since there has been a very marked reduction of this disease in the localities where it prevailed, since the hookworm dispensaries have been established. So it seems when you save a patient from the effects of hookworm disease, you in many instances, save him from tuberculosis, pellagra, and many other serious diseases, that so frequently develop in those suffering from the devitalizing effects of hookworm infection.

The effects this investigation has had on public sanitation is too far reaching, to even estimate at this early date. The statistics show by the last report of the Rockefeller Commission, that in Kentucky, approximately twenty-

five thousand persons have been treated for hookworm diseases; over eleven hundred physicians have treated the disease during the last year; about five hundred public lecturers have been given, reaching between eighty and one hundred thousand people. The sanitary privy has become practicable, and is rapidly taking the place of the old open privy, thus reducing to the minimum the dangers from soil pollution. The public has become an active co-operating agency in pushing forward the work.

I may best illustrate the good results of the work upon sanitation by referring to the locality with which I am most familiar, the Straight Creek coal field, and from reports I have, the same results have been accomplished elsewhere. In the years 1910 and 1911, this section of Bell county was made the scene of a most violent outbreak of pellagra, also many cases of typhoid fever, dysentery and the various manifestations of hookworm disease, at that time unknown. These conditions continued through 1910 and 1911 and the early part of 1912. The sanitary conditions were bad. The privy vaults shallow and largely surface, allowing the excreta to become spread in the surface soil, and exposed to flies and other insects; also to be freely washed into the streams, and germs of disease find their way into the drinking water, in many instances. The attention of the State Board of Health was called to these conditions and soon became active in the work. The large coal corporations, and especially the Continental Coal Corporation, which controls most of this field, became active in a crusade for better sanitary conditions. The old privies were torn down, and new sanitary privies with deep vaults, and enclosed, were built in their stead. A campaign of education was inaugurated by the County Board of Health, assisted by the Bell County Medical Society, and the physicians in these localities. In the summer of 1912 the Hookworm Dispensaries were established in the county. A six weeks' campaign under the direct charge of Dr. J. S. Lock, resulted in the finding of about sixty-six per cent. of all those examined, infected with hookworm. It is estimated that from twenty-five to fifty per cent. of those found infected took the treatment, as directed, and were relieved of the disease.

We may ask what has been the end results in this locality? It has been decided and well marked. Pellagra has been reduced to a few scattering cases. Typhoid fever has been very much less, but very few cases during 1912 and up to the present time. Dysenteric troubles have been reduced, and the general health and working capacity improved.

What has been true in this particular locality, has been true elsewhere. The general effects of the campaign, has been educational, and has removed from the public mind many vague ideas and doubts that previously existed. The work has been open and frank, and conducted in the presence of the public. The patients themselves have been permitted to look through the microscope, and see the living, wriggling larvae, also the hook worm ova. The mode of entry into the human system and the normal habitat, have been explained to them, and the way in which they attach themselves to the mucous membrane and live on their life blood, has all been made plain to them, with the result that they see and know and believe. With all this before them, it is easy for them to comprehend how other germ diseases are propagated and spread and the public at once is changed from the attitude of Doubting Thomas, to that of an earnest advocate of all these sanitary measures. Thus it has paved the way for putting into actual practice, many sanitary measures that would have met with serious opposition from the public, and has greatly advanced the work of sanitary science.

Like all new movements, there has been some opposition and criticism by the public, but the ultimate results have been good, and will lead to a higher estimate of the profession by the public in general. Large corporations that employ labor, are quick to note the increase in productive energy, and a larger output for a given amount of time. The prosperity of the country in general is largely fixed by the standard of public health, and public wealth is only the result and natural sequence of public health. So it stands without contradiction that, so far as the medical profession contributes to the public good, it will at least fulfill its higher mission, and receive its proper share of public confidence and respect.

I have in this brief resume endeavored to present a few of the benefits and end results of the hookworm investigation, without going into any details, and I cherish the hope that this good work will go on, until this dreadful malady is no more.

Necessity for School Dental Clinics.—Patrone's article was read at the recent international congress for school hygiene held in Buffalo. He reiterates anew the seriousness of dental caries for the development of the child, the importance of prophylaxis, and the necessity for those realizing this importance to organize, formulate and direct the propaganda for hygiene of the mouth and teeth among school-children as a matter of vital importance for the public health.

GUN SHOT WOUNDS OF THE ABDOMEN.*

By L. L. ROBERTSON, Middlesboro.

The treatment of gun shot wounds of the abdomen by laparotomy is one of the latest developments of modern surgery. Up to 1885, according to Parkes, only six operations for this class of work were recorded. Coley tells us that the first laparotomy for gun shot wound of the abdomen was by Boudens in 1836. He resected eight inches of a small bowel and united the ends by Lembert's sutures. After the death of the patient three days later, an undiscovered wound of the caecum was found. Among the most remarkable laparotomy for gun shot wound was performed by the late Dr. W. T. Bull of New York in 1885 where seven perforations were found and closed, the patient making a complete recovery. This subject was forced into prominence by the interest manifested in connection with the murder of President Garfield by a gun shot wound of the abdomen. The usually hopeless results of these injuries when untreated and the success of certain operations combined with the general improvements in modern abdominal surgery have now resulted in placing the treatment of gun shot wounds of the abdomen among justifiable and beneficial operations. And American surgeons have contributed by far the most important part.

A bullet from any sort of firearm at close range will in most cases cause deep penetration. It is rarely possible to get true information as to the course of the bullet from the position which the wounded person held when the shot was fired. For all practical purposes the size and rapidity of the bullet may be ignored, although a large and nearly spent ball produces more extensive injuries than a small or rapidly moving ball, yet the effects of either are quite serious enough to greatly endanger life and make an urgent claim for operative treatment. It has been truly said that the tendency of gun shot wounds of the abdomen is towards death. In a great majority of cases death is due to a form of peritonitis which is usually described as septic. No doubt the peritonitic fluids are septic but it is doubtful if the death is owing to true blood poisoning rather than to severe shock. In about 90 per cent. of the cases attacked with peritonitis, death takes place within forty-eight hours. It is true that the peritoneum has a limited power of disposing of septic fluids, but this power of the peritoneum has an infinitesimal influence in lessening the death rate from this class of in-

*Read before the Bell County Medical Society.

juries. Even if there has been a moderately perfect plastic closure of the perforation the edges of a bullet wound are so liable to undergo sloughing that a secondary perforation usually takes place. A separated slough cast loose into the cavity has great danger of its own. A slough of the mesentery which cannot fall into the bowel is more dangerous than one on the intestinal wall.

Bleeding is, in itself, rarely fatal unless the bullet should perforate one of the large blood vessels, but the extravasated blood when infected by free visceral fluids produces extreme septic inflammation and so adds to the danger. A few deaths have been caused from loss of blood through perforation of some of the large blood vessels. This is more likely to occur from wounds involving the solid viscera and their vessels than from injuries to the hollow viscera. For instance, presence of blood in the urine indicates, according to the position of the wound, injury to kidney, ureter or bladder, but it is possible you may have injury to any of these organs without the appearance of haematuria. Shot wounds of the kidney are not so dangerous as is generally supposed. According to Edler death most frequently results from pyaemia accompanied with peritonitis and suppuration. Recovery is usually slow on account of the complication of urinary extravasation. Of the uncomplicated shot wounds of the kidney 85 per cent, according to Edler, get well.

Wounds of the omentum are occasionally attended with free bleeding which may form a large haematoma between its layers. In such a case complete amputation of the omentum above the site of injury would be the best treatment. A perforation without bleeding should be excised and the opening closed by continuous suture to prevent gangrene.

Wounds of the liver are by no means necessarily fatal. A good per cent. of these cases will recover. Suppurative inflammation is most frequent cause of death due to foreign bodies in the wounds, particularly to splinters of rib. You should look for foreign bodies and remove them if found. Hemorrhage is the cause of death in some cases. The wound should be cleansed as thoroughly as possible. Bleeding must be checked either by the insertion of deep cat gut sutures or by plugging the wound with gauze. Murphy, in a successful case, employed suture alone.

Wounds from the spleen cause death almost invariably by hemorrhage. Suppuration is rare, and then mostly from the presence of foreign bodies. The checking of hemorrhage is difficult and plugging the wound by gauze is best. Should this fail,

primary removal is indicated. The results of removal for injury are more favorable than for disease.

Wound of the gall bladder is almost certain to cause death from extravasation. Under the best palliative treatment death almost inevitably takes place. In shot wounds of the large intestines the prognosis is more favorable.

Shock is frequently mentioned as an invariable sequence of perforating wounds of the viscera. While in some cases it is an exceedingly variable symptom, frequently it is marked in unimportant cutaneous wounds. I recall a case of a man shot a few years ago. The ball entered on the right side of the abdomen and followed the sheath of the abdominal muscles and was removed on the opposite side of the abdomen. The patient had a profound shock but the bullet never entered the abdominal cavity. In some cases it is simply nerve prostration from terror. In perforation of any of the abdominal viscera a majority of the cases will be followed by shock more or less severe. One of the most important symptoms is a feeling of nausea frequently accompanied with vomiting. This is not common with false shock while in numbers of cases of undoubted perforation it is present in more or less degree. True abdominal shock from extravasation of fluid into the cavity is generally very pronounced and more or less severe.

An important practical question is when is the best time to operate. In a general way it may safely be said that operation should be performed as soon as possible after it has been made sure that there is perforation of peritoneum. Coley reports 39 cases operated on within twelve hours, 18 recovered, while 22 operated on after 12 hours, only 5 recovered. The chance of recovery would seem to be greatly increased by early operation. Symptoms should not be treated for they are often misleading. If there is profound shock the operation may be put off while the patient is watched closely and treated for an improvement which would justify operation. The possibility of the shock being due to hemorrhage must not be overlooked. This, as in many other conditions, must be left to the judgment of the surgeon. It is impossible to provide specific or absolute rules.

Before operation the abdomen should be thoroughly cleansed with soap and water and shaved and painted over with iodine. The instruments are the ordinary ones used for abdominal section, with the addition of four or five intestinal clamps. The incision in the majority of cases should be made in the median line. There is no doubt that it affords more space for a general exploration

of the whole cavity and its contained viscera, while on the other hand there are cases where an incision in the median line is not indicated. What is to be the exact line of incision it is impossible in general terms to indicate.

The length of the incision must be regulated by the thickness of the abdominal wall, but make the incision sufficiently large so you will have room to work. When the abdomen is opened make certain as to the fact of the perforation. Any blood clot which obscures the field of operation is mopped up gently, a systematic examination of all the viscera which lie in or near the track of the ball should be thoroughly made. If there is much hemorrhage the source of it should at once be found before doing anything else and the bleeding point temporarily secured by forceps. While an opening in the bowel that is discharging feces is being closed, no definite order of procedure can be laid down—the most urgent thing attended to first. A survey of the parts is made when the dangerous hemorrhage or abundant extravasation has been checked and the full extent of the injuries is finally ascertained. A moderately severe contusion may be doubled inward and Lembert's suture used or a continuous suture placed in the healthy bowel beyond it so that if it does become gangrenous the slough will be discharged into the lumen of the gut and cannot get into the general cavity. In cases of perforation of the bowel Lembert's sutures will be the best. For a small perforation a continuous suture will be sufficient. A multiple perforation of a small piece of bowel may require a resection. I would like to report a case of a child 14 years of age who was accidentally shot in the abdomen by her brother, playing with a pistol. The bullet entered the abdomen about an inch from the median line. The accident occurred about 7 o'clock in the morning in a neighboring town. The child was sent to me in the afternoon arriving here about 6 o'clock. She was immediately taken to the hospital and upon examination I found her abdomen was very much distended and extremely tight. Pulse very rapid. The child was more or less under the influence of opium given by the nurse with her. An immediate operation was advised and as soon as the operating room was ready she was anaesthetized, an incision made in the median line, the peritoneum opened. We found the abdomen full of blood which was cleaned out as quickly as possible, the bleeding points elamped with forceps and on examination of the intestines we found three perforations of the bowel which were closed by silk sutures. And just here I would like to state that round worms in the bowels were protruding through the opening in the gut.

They of course were removed with pieces of gauze before the perforations were closed. On further inspection we found a multiple perforation of the small bowel which was most impossible to close, so we did a complete resection of about four inches of small intestines, using a Murphy button. The abdomen was cleansed as best we could and closed, leaving two large drainage tubes in the abdomen, the patient removed from the table and placed in bed in the Fowler position, with hot water bottles. The pulse was very bad. She was given transfusion of saline solution at once and continued at intervals for two days. During the first two days her condition was extremely rocky, but from that time on she made a good and complete recovery, leaving the hospital in about four weeks.

EXAMINATION OF THE BLOOD IN DIAGNOSIS AND PROGNOSIS.*

By MASON COMBS, Pineville.

When we consider that the arterial system is the transportation system through which all life-giving and life-sustaining elements are carried to the immense city of cells which constitute the body; and the venous system, the sewerage system through which the system sends to the lungs, liver, kidneys and skin those elements which are used and are no longer fit to remain in the city; that both these systems of transportation are at all times, in health or disease, filled with blood, which is the train used under all conditions, it would seem that being acquainted with the train of the normal body, we should be able to recognize any departure from health by a change in the train or its burden. Surely there is unmistakable evidence in the blood of any and all diseases were we but able to recognize it and the writer predicts that the time will come when its examination will reveal evidence of any diseased process which will be worthy of consideration in its diagnosis. So, at present we are looking into the field of haematology through a crack in the fence and we view its possibilities through a wormhole in the rail. However, notwithstanding our limited knowledge, blood examination to-day plays an important role in diagnosis, and, in this paper the writer shall describe only the most important practical methods of microscopic examination.

To obtain a specimen, the lobe of the ear or the finger tip is cleansed with alcohol and dried with aseptic gauze; the part is then held firmly with the fingers of one hand and with a lancet, a surgeon's cutting needle or a pen point, the half of which has been broken

*Read before the Bell County Medical Society.

off, a quick stroke is made which is followed by a rather free oozing of blood. The first drop is wiped away, as this may be contaminated, and with a glass slide held between the thumb and fingers in each hand, allowing one slide to come in contact with the blood, the other held in readiness to make the smear, which is done by holding its end in contact with the blood just long enough for the blood to flow by capillary attraction across the end it is drawn not pushed slowly until the drop is smeared. If this fails to make the smear even another drop is obtained from the same puncture by allowing the hand to swing back and forth, or by milking the lobe until another drop of blood can be had. For safety three or four specimens are obtained, as one often fails to get a good stain with only one specimen. The smear being made, it is rapidly dried by passing it over an alcohol flame. This is done to prevent changes in the red blood cells which are highly sensitive to air. If the specimen is to be carried to the office, it may now be wrapped in paper, and kept any length of time without undergoing any change. Staining is done, if desired, immediately after the specimen is dried and a good method that is all that is needed to examine for any of the anaemias for malaria or for differential leucocyte count is as follows: Pour on eosine a. l. c. and allow to stand for one minute, wash off with water, then pour on Grubler's alkaline methylene blue and allow to stand for one minute, wash with water and dry with filter paper. To examine, drop one drop of oil of cedar on specimen and place under microscope, when it will be found that eosin has stained the erythrocytes red, the protoplasm of all the leucocytes except the eosinophiles and basophiles light red, which take the basic stain eosin and are bright red. The nuclei of the leucocytes and of the erythrocytes where nucleated, are found to be blue from the methylene blue. In normal blood we notice that the erythrocytes predominate and that ordinarily four or five fields are passed over before observing a leucocyte. Of course, we may see two or three leucocytes in one field, but the average is about one cell in five fields examined. The erythrocytes appear as circular biconcave disks with a semi-transparent center, all having very nearly the same size and shape. The leucocytes, markedly larger, present four types, the most abundant being the polymorphonuclears, representing 65 to 75 per cent. having two or more nuclei. These are sometimes subdivided into polymorphonuclear neutrophiles and basophiles, the former's protoplasm having the same hue as the erythrocytes, light red, while the latter is of brighter hue. However, for purposes of

diagnosis and prognosis, it is not at all necessary to recognize the difference; hence, the writer prefers to speak of them as being polymorphonuclears. The lymphocytes represent 15 to 20 per cent. of the total number and are also represented by two types, the large and small, the former having a large amount of protoplasm, faintly stained blue, and the nucleus dark blue, the latter having the appearance of the former, except smaller and more opaque and exact in outline and structure. The transitionals represent from 2 to 4 per cent. and are identical with the polymorphonuclears, except that the nucleus is horse-shoe shaped. The eosinophiles have usually two, and sometimes more, nuclei; protoplasm is irregularly formed and is composed of large bright red granules. They constitute from 2 to 4 per cent. It is to be understood that the erythrocytes normally have no nucleus. Having acquainted oneself with a normal picture, it is easy to recognize any departure therefrom. Even a leucocytosis may be recognized by observing that instead of passing over four or five fields before seeing one leucocyte, we see an average of one to every two or three fields. This, however, should not be relied upon in all cases, since a total leucocyte count is easily made and is more dependable, usually.

ANAEMIA-SECONDARY.

In this we find that the erythrocytes, or a part of them, have lost their coloring matter and are pale, some of them irregularly shaped, some of them large, some small, some few nucleated and some of them normal in shape and color. Leucocytosis is observed.

PRIMARY-CHLOROSIS.

All the erythrocytes are pale, having lost their haemoglobin, the irregularity in shape and size is more marked than in secondary anaemia, some of them being elongated and of all shapes and sizes, some of them nucleated, and, as in all anaemias, we notice an increase in the leucocytes.

PERNICIOUS ANAEMIA.

Here we notice that the erythrocytes are even redder than in normal blood, but there is a marked diminution in number manifest even to the eye microscopically. They are generally oblong in shape, but we notice large and small, as in the other anaemias, and that some of them are nucleated.

LYMPHATIC LEUKEMIA.

In this condition the most striking change is in the proportionate number of lymphocytes, and in extreme cases we may find that they predominate over the erythrocytes. Of the leucocytes, instead of finding the poly-

morphonuclears, representing 65 to 75 per cent. we find that the lymphocytes are most abundant and may represent even 90 per cent. of the total count.

MYELOGENOUS LEUKEMIA.

In this lesion we meet with a new type of leucocyte, which only appears in diseases of a grave nature, the myelocyte, a larger cell than the large lymphocyte, its protoplasm being granular, whereas the normal large lymphocyte is homogenous and is possessed, as is the normal lymphocyte of a single nucleus. So in any condition where we find this cell, even in small numbers, we know the picture represents a pathological condition of no little consequence. Here we find it outnumbering as a rule the other varieties of leucocytes, and as in the other forms of anaemia, we observe nucleated and irregularly shaped erythrocytes, macrocytes and microcytes.

MALARIA—TERTIAN TYPE.

To examine for malaria, if patient is at the office, it is well to use an unstained specimen, as in it one is able to more easily recognize the parasite by its motility than by the contour in the stained specimen, for which a blood platelet or some other similar thing is liable to be taken; but as a rule convenience does not permit an examination of the fresh unstained specimen so the aforementioned method of staining is a good method to follow in preparing for the search. In the tertian variety the amoeba are seen in variable shapes and sizes in the red blood cells. One or more may be seen in a single cell if they are not fully grown, having the appearance at first of small bluish, from the stain, rings, and as they grow larger the erythrocyte swells until devoured, when sporogenesis takes place, which ushers in a chill. So if the blood is examined immediately prior to the chill, the parasite is seen to be fully grown and to occupy the whole of the cell of the larger than normal neighboring cell, and if examined immediately after a chill, only the small parasite is found, which may be floating in the plasma or in the act of making an attack by clinging onto an erythrocyte.

ESTIVO AUTUMNAL TYPE.

In this type the parasite may very much resemble that of the tertian type, but a particular variety is here found only present in this particular type, namely, the crescent, being oblong, usually curved, and having a dark center, under all conditions, and instead of finding, as the parasite grows that the erythrocyte is larger, it is shrinking and much smaller than its unattacked neighbor.

WIDAL TEST FOR TYPHOID.

For this test, a smear is not made, but a drop of blood is allowed to dry if it is to be carried to the office and when ready to proceed, enough water is added with the platinum needle to give to the blood, when dissolved, a coffee color, when the living typhoid bacilli are taken from a freshly grown agar-culture not more than forty-eight hours old, since they are more active while young, and added to the blood. If typhoid exists the toxins in the blood soon will render the bacilli inactive, and if the test be negative, they will continue active. The time required for this phenomenon is 15 to 20 minutes.

LEUCOCYTOSIS.

As hereinbefore stated, leucocytosis may be recognized by noting that instead of, as the slide is passed over, seeing an average of one in four or five fields, one in every one or two or two or three, according to the degree of leucocytosis is seen. We have, too, even in the presence of a low count, a proportionate increase in the ratio of a particular leucocyte, as for instance instead of the polymorphonuclears representing 65 to 75 per cent. of the total count, they represent 80 to 90 per cent. which is a polymorphonuclear leucocytosis, or we may have an eosinophilia, which is an eosinophile leucocytosis. This is determined only by the differential count, which is made with the stained specimen. But usually when we speak of a leucocytosis, we have reference to an increase in the total number per cubic centimeter of leucocytes. Normal blood contains about seven thousand white blood cells per cubic centimeter, but we may find in healthy persons the count to be as much as ten thousand per cubic centimeter after taking a cold bath, a full meal, or after taking exercise, so under these conditions we would not consider a count of ten thousand a leucocytosis. To make the count, a good equipment is the Thoma-Zeiss blood-counting outfit, which may also be used for counting the reds. A rather free bleeding is required, and when all is in readiness, the pipet is allowed to come in contact with the flowing blood and as soon as the desired reading is reached by the blood which is slowly drawn into the pipet, it is carefully, with a rubber mouth piece, still held so that the blood will not be drawn up nor forced out, inserted into a solution of one-third of one per cent acetic acid which dissolves the erythrocytes and gives the desired solution, usually 1 to 20. After thoroughly shaking, a small amount is placed on the ruled slide and covered with a specially made cover glass. Now, if the specimen is a good one, Newton's rings are observed by holding it so that the light hits it at an angle of about 40 degrees. Now, count the cells in five rows

of crosses at a time until the whole are counted in the four hundred squares, which represent one-tenth of one cubic centimeter. Multiply this by ten and the product by the dilution which gives the number per cubic centimeter. To interpret the meaning of a leucocytosis, speaking now of an increase in the total count, unless it be unusually high, it is necessary to make repeated counts of blood taken at hourly intervals from the patient in order to ascertain whether the number be increasing or diminishing. This is because of the fact that under the same conditions in different individuals the count may vary by reason of the difference in the vitality of the patient.

In appendicitis, the count is not usually more than twenty thousand per cubic centimeter. If from the first count we determine a leucocytosis of twelve thousand, and from a specimen obtained one or two hours later we find that it is increasing, an operation should immediately be performed, since this signifies that the process is overcoming the vitality of the patient, or at least that it is gaining headway. Total leucocyte count speaks nothing comparatively if only one count is made. From the differential count, we learn that if the ratio of polymorphonuclears has increased disproportionately to the total leucocyte count, our prognosis is grave; if it has increased proportionately and is not more than 75 per cent, the count being high, we have a severe infection and a fair body resistance, and in the presence of a low count and a relatively low polymorphonuclear count, mild infection and fair body resistance. If a low count be made and we find that the polymorphonuclear constitute more than 75 per cent, we know that the condition is a grave one, since the infection is severe and the body resistance low. We may observe instead of a leucocytosis a leucopenia, or a less than normal count. This usually denotes poor resistance to disease. The appearance of nucleated reds together with increased leucocytosis means that the body is endeavoring by the manufacture of reds to resist disease and the disappearance of nucleated reds, together with rapid increase in the leucocytosis, signifies oncoming danger; that the body is giving up the fight. Now, a drop in the leucocytosis after the nucleated reds have disappeared, means that the end is near.

Bronchopneumonia. — Treatment. — Creosote carbonate recommended for use in bronchopneumonia and obstinate chronic bronchitis in children. Dosage, 5 drops (0.5 Gm.) three times daily for each year of age in first three years; in fifth and sixth years, 20 drops (2 Gm.)—Hunans.

FRACTURE SUGGESTIONS.*

By GUY P. GRIGSBY, Louisville.

Medicine and surgery have made such rapid strides in other fields that fractures have been allowed to fall into the background as a subject on which our predecessors of years ago had said the last word. There is nothing in the whole field of surgery that is more important than fractures. They are second only in frequency to childbirth. Because of the general advance of surgery and the immunity from disaster afforded by aseptic methods there has been a great advance in the operative surgery of bone.

For surgeons and practitioners who are unable to avail themselves of the operative method, the non-operative procedures are likely to remain (for sometimes yet,) more safe and serviceable. Immaterial what method is adopted it must be efficient from the first. If a surgeon is doubtful as to whether he can successfully treat a fracture by non-operative means, he should consider if he could do better by operating. Don't say if this is not satisfactory we will operate later, for by so doing the opportunity will probably be lost, of getting a good functional result. A fracture man must be a mechanic with a sound knowledge of anatomy, he must be dextrous and have the ability to vary from routine methods, in order to meet special conditions.

MAL-UNION AND NON-UNION.

Both of these conditions are of frequent occurrence. Angulation and improper alignment of the fragments, if one is allowed a free hand should not occur. The sparing or half-hearted application of traction is usually the fault. Reduction should be attempted only under the most favorable conditions. It is needless for me to tell of the importance of an X-ray before and after reduction. The X-ray should be taken in two different planes, otherwise an incorrect reading is liable to occur. Always administer a general anesthetic, unless particularly contraindicated. Produce deep anesthesia. By this you overcome the muscular spasm. Place the patient on a hard flat table, not a sagging bed. A skilled assistant is necessary. Reduction should require as much time as is necessary for its proper performance. Hurry is frequently fatal to a good result. If reduction by the hands is impossible, traction by means of a weight and pulley or an efficient method is a "Buck's extension," attached to several strips of muslin caught over the shoulders of the assistant, who with his back to the pa-

*Read before the Nelson County Medical Society.

tient, can make considerable traction. A sheet around the perineum and tied to the table holds the patient firmly. By this means reduction can be accomplished.

Remember that a correct alignment in conjunction with complete obliteration of shortening must be obtained. A reduction that is impossible during the first anesthesia, by means of traction for twenty-four to forty-eight hours is then easily made. The realization is important; that steady fixed traction or extension will accomplish the desired result while forcible intermittent pulls succeeded by periods of relaxation will only tend towards the exhaustion of the patient and the assistant.

Early reduction before infiltration occurs is desirable, for after it has set in it is often impossible to bring about satisfactory reduction even under ether. In such cases sufficiently heavy weights should be used for not over a week, under careful supervision, for by this time reduction will be easy or obviously impossible by such means. Remember that some few fractures require twice as long to consolidate as others. Do not allow your surgical zeal or impatience to make an ununited fracture out of what would eventually prove a good result. Often the routine practice is to examine the fracture at the end of the fifth week. If it is not united let it alone for two or three weeks longer, it will in all probability unite. Instead of this, an examination is made two or three times a week, a consultant complicates the issue by a thorough manipulation and what chance the dilatory bone has is gone. If there is pain on the site, of an old fracture, particularly when pressed upon, unsound union should be suspected, especially if there is a large callus exudation. In such cases, if there is faulty alignment this should be corrected, *otherwise leave them alone*, providing you correct the systemic condition that is causing it. In cases of non-union without pain upon manipulation of fragments you will not get union, because usually a false joint has been established. An open operation is then indicated with the employment of an autogenous bone graft.

I shall only consider those fractures that seem to offer the most difficulties in their successful handling by mechanical means.

Surgical Neck of the Humerus. The forearm is flexed and held in a sling. A cushion is placed in the axilla for abduction. Adhesive straps are applied from the insertion of the deltoid to 6 inches below the elbow. To these attach a weight of five to ten pounds for one hour. If at the end of that time reduction is accomplished a moulded splint is ap-

plied. Inside splint from axilla to elbow. Outside splint, top of shoulder (shoulder cap) to the wrist. Weight is continued during application of splints. In cases in which reduction is not accomplished, put to bed and apply weight and pulley till fragments are reduced. Massage is begun in ten days; in two or three weeks passive motion is applied every day. Splint is removed at the end of the fifth or sixth week. For fracture of the shaft of the humerus with exception of lower end is similarly treated.

Lower End of the Humerus. The Jones position is the one of choice. Elbow is acutely flexed and the hand is supinated. It is held in this position by means of a plaster splint or adhesive plaster. No change should be made in the position for at least two weeks, then the wrist should be lowered for one inch or more. This should be gradually increased every other day. Passive motion should not begin for at least three weeks. This should be slow and carefully done, the fracture being protected from strain by the hand of the surgeon.

Olecranon. The treatment of this condition would seem operative, but really the difference in the percentage of functional results between it and the mechanical treatment is small, 72 per cent against 75 per cent. You often see quite a fibrous gap with a strong useful arm. In reduction the upper fragment is pressed firmly against the lower and held in this position with crossed pieces of adhesive plaster. The arm is extended and an anterior splint is applied. Operative measures are often indicated in the treatment of these fractures.

Bones of the Forearm. In certain fractures of the shaft of the radius and both bones of the forearm, we encounter some of our greatest difficulties, and often the choice is between operation or some deformity and considerable loss of function. One is surprised what continuous traction extending over a period of three or four days will do in these cases. I recall a case in which two attempts were made under ether without accomplishing reduction of the fracture in the middle of the shaft of the radius. The boy was put to bed, a traction applied for five days. He was then given ether and the reduction was easily accomplished. Operative measures are difficult because of the nearness of the bones to the surface, and a close relation of many important structures. The scar is disfiguring, especially in women. In the sub-periosteal type not much trouble should occur. The angular deformity so often present should be corrected in incomplete supination, with the employment of traction. It is best to fix the elbow especially fractures in the

upper forearm. As a routine practice, the supinated position is safest in all of these fractures. If union is slow, fix elbow in extension, allow patient to swing arm, in order to get the benefit of the congestion. Colles' fracture requires no special mention. The key-note is the thorough reduction of the fragments. The application of a short anterior and a long posterior splint. Use of passive motion at the end of two weeks. The removal of splints and the application of an adhesive plaster dressing.

Femur. Neck. The treatment is divided in two classes: (1) recent fractures; (2) old fractures.

Recent Fractures... As soon as the diagnosis is made, the abduction treatment, as devised by Whitman, should be instituted at once. A general anesthetic is given, preferably ether. The patient is placed upon a box, or pillow, about eight inches high, and large enough to support the head, shoulders and trunk; the pelvis rests upon a pelvic support, and the extended limbs should each be held by an assistant. The sound leg is then abducted to the normal limit, which is usually about forty-five degrees, and the fractured limb is abducted to a degree to correspond to the sound one. Traction is then applied and the outward rotation is overcome by lifting up and supporting upper end of femur and, at the same time, rotating the leg inward. Measurements are then taken to see that all shortening has been overcome by lifting up and supporting upper end of femur and, at the same time, rotating the leg inward. Measurements are then taken to see that all shortening has been overcome, and if it is still present a greater amount of traction is applied until the two limbs are of equal length. A plaster spica is then applied, from the toes to the costal margin, during the application of which the assistants should maintain their respective positions and use the utmost care not to disturb the fragments. The spica is worn usually for eight to ten weeks, followed (perhaps) by a short spica for three or four weeks. After removal of the plaster, there is usually a tendency to adduction deformity, and this is overcome by daily stretching of limb.

This treatment is used for the aged as well as the young, and I would condemn the almost universal practice of treating these cases by "Buck's extension" and sand-bags, because of the almost uniform bad results that follow this line of treatment. So long as a patient is able to take an anesthetic for twenty or thirty minutes, this is by far the most rational and satisfactory treatment. Several cases have been reported of good functional cures in very old patients where this treatment has been used. I am sure it is quite

needless for me to recount to you the advantages of this treatment; results speak for themselves, and the results from this treatment during the past four or five years have proven conclusively that in this condition it gives the best hope for a functionally active hip.

Old Fractures, should be treated unreservedly by operation. Unless they are impacted and the functional result is satisfactory.

Femur. Fracture of Shaft. Under ether traction as previously described with manipulation until reduction is accomplished. The limb is then straightened until the anterior, superior spine, midpatella and the middle of the ankle are in the same alignment as the opposite limb. Under continuous traction a plaster spica is applied in moderate abduction. Be sure to measure and overcome all shortening. Plaster is worn for eight or ten weeks, is removed and reapplied if union is not firm. Through the course of treatment it is necessary to be positive of four things:

(a) Absence of shortening; (b) prevention of outward bowing of thigh; (c) prevention of outward rotation of the leg and lower thigh below seat of fracture; (d) sagging backward of the thigh.

Fracture of Leg. In fracture of tibia and fibula immediate reduction under ether is indicated. Traction is made on foot and counter traction by sheet over the body and under the perineum. Then by manipulation the fragments are approximated. The subcutaneous line of tibial crest should be brought in alignment. The molded cast of splint is then applied including the knee and foot. If cast is used, cut gutter over tibial crest. In order to observe any change in the line of the crest. In three or four weeks cut casts and allow movement in knee. A Potts' fracture should be reduced immediately notwithstanding swelling or effusion. Results of delay are serious. To reduce fracture the knee is well bent, and it may be helpful at first to increase the deformity in order to disentangle the end. With foot slightly flexed, the heel is well pulled forward, and the tibia pressed backward until the dislocation of the ankle is corrected. Enough force should be used to slightly overcorrect the valgus deformity. Once reduced there is little tendency to recurrence. Remember that inversion of the foot should be maintained, even after the patient begins to walk. I make it a practice to slightly raise inside the inside heel and sole of the shoe, and compel them to walk in moderate varus.

Patella. Mechanical treatment will at times give good results, but I would consider that the operative correction is the wise and safe procedure. Operation so shortens the time of disability two to three months by

operation, ten to twelve by non-operative means, that the small chance of complication that may follow operation are out-weighed. The mechanical treatment—reduction is not attempted until the joint is free of effusion and swelling. After reduction the fragments are held by cross-adhesive strapping, and the limb is placed in a cast in complete extension. This is worn for four weeks. After this a posterior splint is applied and the patient allowed to walk with crutches. The use of passive motion is desirable at this time. Some form of retentive dressing should be worn for at least eight to twelve months while patient is bearing his weight.

Compound Fractures. In dealing with the individual case first aim is to decide whether the limb can be saved without sacrificing the life of the patient. Second, whether the active treatment is preferable to the expectant treatment. The least handling of the parts is desirable. Hemorrhage should be stopped, and the next danger is from infection. Do not lather the parts with soap and scrub them with a brush, until they appear to the layman or the surgical tyro clean. During this manipulation you have only enhanced the danger of infection. The parts which have only apparently been dirty by clinging particles of mud are now thoroughly rubbed in with microorganisms. No matter how much gauze has been put on top of the wound, how much cotton, and how carefully it has been wrapped up, fever and other symptoms of sepsis will soon appear. The most satisfactory method of initial treatment is to seal the parts which are exposed to contamination after removing mechanically and carefully all the particles from the surface of damaged parts which can be easily removed. Paint the skin with iodine thoroughly, also the wound. Remove what parts that have been so badly damaged that they will not recover life by their own circulation or by adhering to parts still living. Open all recesses that may harbor infection. Drain them, and wait for nature to throw up her defenses. It is frequently advisable to give a prophylactic injection of antitetanic serum. If the consideration of life requires an amputation it should be done, but not too rashly, since it is surprising what nature will do toward the repair of damaged tissue. Wait until your period of initial infection is passed, then treat as a simple fracture. It is needless to say that all these cases are best treated in a hospital by a competent surgeon.

HOOKWORM.*

By J. S. FITZHUGH, Island.

On the 10th day of last January a gentleman brought his son into my office for treatment for chronic leg ulcer. He said he had been trying for twelve months to get the ulcers healed. Part of the time he had been



MINSEY FAMILY



MINSEY BOY AT TIME OF TREATMENT

*Read before the McLean County Medical Society.

under the care of a physician and part of the time he had been treated with domestic remedies.



MINSEY TWO MONTHS AFTER TREATMENT

He was given a simple ointment and directed to keep the foot elevated. He returned one week later slightly improved. I had noticed in the bulletins of the State Board of Health that patients with these leg ulcers were often infected with hookworm, this and the boy's anemic, run-down condition and a stare from his eyes, hard to describe on paper, prompted me to make a diagnosis of hookworm. This diagnosis was later confirmed by the State Bacteriologist.

The boy is eighteen years old. After the usual preliminary preparations he was given 45 grains of thymol. The treatment was successful and the boy cured. He has been well ever since, except for malaria. This boy was a red pepper fiend, ate it when ever he could get it.

The leg ulcer had healed before I could get a picture of it. But the dark spot near the

ankle shows the large ulcer and two smaller ones are seen near the knee. The leg has given the boy no more trouble.

The picture of the boy standing by his home was made at the time of treatment. The one in which he is standing by a tree is two months later. There is a marked difference.

The boy is brighter and says he feels better than he ever remembers feeling before. He weighs more, notwithstanding he was doing heavy work in new ground and it was at the time for him to weight less.

The family group shows by the X the ones that have had specimens examined and the hookworm found to be present.

The father did not bring specimens of the ones I told him to bring. There are others in the group more typical. For example, the small boy and girl toward the left and at the bottom of the group, must be heavily infected. The object of this report is not to go into the symptoms, treatment and prophylaxis which have been gone over so thoroughly by the



State Board of Health, but merely to call attention to the broad strip of Kentucky extending from Meade county in a south-westerly direction, in which the hookworm has not been found, and in which the worm is probably very common.

These cases are four miles below Island, in McLean county, and on Green river.

DIAGNOSIS AND TREATMENT OF KNEE LESIONS IN THE ADULT.*

By V. P. GIBNEY, New York.

The President of the Association, soon after his election, was good enough to invite me to attend this meeting, and to prepare a paper for your discussion. An intimacy extending over a period of forty years induced me to accept this invitation, and I can assure you, gentlemen, that the honor of meeting the members of the Kentucky Medical Association is one that is deeply appreciated by one born and reared in old Kentucky.

I recall a meeting in Danville many years ago where it was my distinction to be seated upon the platform when that eloquent Kentuckian, the late Richard O. Cowling, presented to that giant in surgery, Samuel D. Gross, the door-knocker that had hung on the front-door of the father of ovariectomy, Ephraim McDowell.

The profession of this State has always occupied an exalted position in the medical world, and it has always been a subject for self-congratulation that my medical education was begun in the Medical Department of the University of Louisville.

In selecting a topic which I thought would at least elicit a discussion, I have had in mind the one idea—something practical. The topic I have chosen is one dear to my heart, obtruding itself on all occasions, and when easting about for something which might interest my friends in Kentucky, I had quite forgotten a vacation incident in the early part of the century. Indeed, I had already chosen my title and sent it to my friend and pupil, Dr. McCormack, and had written the introductory, while enjoying my vacation on the shores of Long Island Sound, when my secretary sent me a lot of reprints of papers on the knee. I found one with this title, "Diagnosis and Management of Some of the More Common Lesions of the Adult Knee," extracted from Washington Medical Annals, 1902.

In February of that year, while enjoying a rest at the New Willard in Washington, a delegation from the Medical Society of the District of Columbia invited me to present a paper on any topic I might select.

In reading that old paper, I find that I have become a little bolder in treatment and a little more confident in diagnosis.

The temptation was very strong to treat you as many of the circuit riders in my early Kentucky days treated their congregations, viz.: fish out an old sermon and "let it go at that," on the ground that the faithful follow-

ers of the Meek and Lowly never tired of the old, old story.

You may rest assured, my brethren, that I am presenting "a brand new sermon."

The knee-joint is as important a joint as any one in the human mechanism, and demands recognition in every period of life. If a babe in arms is poorly fed and scorbutus results, the subperiosteal hemorrhages frequently involve the periosteum bordering on the knee, and alarming symptoms and signs call for prompt measures of relief, lest the functions of the joint be holelessly impaired. When the little one begins to walk and the second summer is passed, the bacilli of tuberculosis of the bovine type in their migratory wanderings prefer to colonize often in the distal femoral epiphysis or the proximal tibial epiphysis when these cancellous structures become hyperemic because of trivial traumata and a tuberculous knee, formerly known as scrofulous, or, a tumor albus, develops, most insidiously making alarming headway, while the family physician is casting about for a diagnosis.

During the period of adolescence in this commendable athletic age, traumata on the tennis court, on the diamond, on the football field or in the mountain passes, bring about the various forms of internal derangement of the knee; and errors in diagnosis contribute not infrequently to a crippling condition, extending well into adult life.

Later still, when adolescence has passed and when a vocation has been chosen, long hours at a desk in ill-ventilated quarters, with irregularity of meals, efforts at keeping up social requirements, induce changes in the alveolar processes and impairment of the digestion, with static disturbances in the pedal extremities, we come face to face with the many forms of infections and the knee often is obliged to bear the brunt of the invasion of the pathological cocci with which the research laboratory has made us so well acquainted.

Lesions of the knee in adult life have always interested me quite as much as have those in childhood. Hospitals have been founded in all parts of the world for the crippled child, while few have opened wards for the adult cripple. The reason therefor is simple enough. The helplessness of childhood appeals to the public, and the maternal instinct predominates.

No argument is needed to convince this Association of the importance of an early recognition of the exact lesion which bids fair to cripple the wage-earner or his helpmeet in the struggle for existence.

Diagnosis presupposes an intimate knowl-

*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

edge of the anatomy of the joint, deep as well as superficial. One needs to recall the outline of the lower end of the femur and the spines in the centre of the upper end of the tibia. These articular surfaces are admirably adapted one to the other for the ginglymoid action of the knee. The location and function of the semi-lunar cartilages and their relationship to the ligamentum alara need to be remembered, as injury to these, either by trauma or infection, induces a good deal of internal derangement. It is essential that one should bear in mind the spines of the tibia and their relationship to the crucial ligaments, for I am convinced that a diagnosis is not often made of a fracture of one or both of these spines which we see standing out so prominently in all of our X-ray plates. One should study the normal size and outline of these spines and become thoroughly familiar with their function, so that any blurring in the plate or any markings suggestive of a partial or complete fracture can be easily recognized. It should be remembered, too, that the attachments of the crucial ligaments close to the bases of the spines could easily be detached by avulsion or fracture. Given then an ability to recognize these anatomical disturbances, a closer investigation as to the nature of the trauma and the functions of the joint soon following the trauma, is demanded, and a diagnosis ought to be made with reasonable accuracy.

While my own histories record comparatively few lesions of the crucial ligaments or tibial spines, I am reminded now, in the preparation of this paper of my failure to diagnose many cases which have puzzled me in times past and have been relegated to that class of internal derangements, by a most interesting paper sent me by my good friend, Mr. Robert Jones, the title of which is, "On Rupture of the Crucial Ligaments of the Knee, and on Fracture of the Spine of the Tibia," by Robert Jones, of Liverpool, and S. Alwyn Smith, of Winnipeg, and published in the *British Journal of Surgery*, Vol. 1, No. 1, 1913. Did time permit I would like to quote extensively from this illuminating contribution, but I must content myself with advising all interested in this subject to study the plates, the cases, and the text of the paper.

Among my records I have a case; I (No. 4437) of rupture of the crucial ligaments I made out in 1898. The patient was a distinguished laryngologist, 52 years of age, who injured the ligaments by fancy riding in the ring, a few months before he came under my observation. There was a laxity of the joint presenting a subluxation laterally in full extension as well as in partial flexion. By limiting these movements in the lateral direction with an apparatus, relief was obtained.

In studying the cases in the paper to which allusion is made, one cannot help arriving at the same conclusion they do, viz.:

"In a case of recent rupture of one or both crucials, fixation of the knee for a period of from three to six months offers the best chance of recovery, and that immediate operation should not be resorted to."

And that

"The rupture of any of the ligaments of the knee should be treated by absolute rest until healing is complete. This of course applies with the greatest force to rupture of the crucial ligament."

If the practitioner fails to recall the instruction received in the anatomical rooms, his trusty "anatomy" is at hand, and there is no excuse for a failure to get knowledge of fundamental points in arriving at a diagnosis.

The history of the case is the next important factor. The exact date when lameness or disability was first observed requires a little cross-examination to bring out a probable trauma as the exciting cause. My own routine method in conducting this cross-examination enables me to locate pretty accurately—

1. The initial lameness.
2. Whether pain is present when the patient is standing or walking only.
3. Just where the pain is felt; and
4. Whether the pain or distress persists after use and into the night.

These points being fully established, a search for other factors in the etiology follows quite naturally; such as excessive weight and the strain on the muscles of the leg that would be induced by a falling arch or a poorly balanced shoe.

Should no information be obtained by the above investigation, a source of infection should be diligently sought, and with the many instruments of precision at hand one can soon determine a clue worth following.

Without trespassing on your time with a didactic essay, I am sure I can convey the lessons I have to impart by illustrating points in diagnosis, in treatment and in prognosis by a selection of clinical records taken from my history sheets, and very little reference will therefore be made to bibliography.

In illustration of lesions periarticular, let me cite the case of a strain complicated by weak foot, in the person of a personal friend, a distinguished author of a work on surgery.

Case II (No. 11039). Male, aged 60, consulted me November 11, 1911, for a lameness involving the left knee, while the history elicited, was that he had always been temperate in eating and drinking, and had, prior to the summer of 1911, never had any signs or symptoms of gout or rheumatism. A medical

friend of high repute as an internist had for several weeks been treating him for a gouty knee, depriving him of his after-dinner cigar, of articles of diet of which he was especially fond, and of all alcoholic drinks. I knew that he lived many months in the year on a farm in the northern part of Connecticut—the Berkshire Hills. I soon learned that he had been superintending the digging of a pond, and had been wearing rubber boots, sinking often deep into the mud, requiring quite a pull to extricate the foot. He recalled a pain in his knee after one or two of these efforts. Toward the close of the summer he found his knee tender about the head of the tibia and was convinced that these frequent traumata were responsible for his lameness. An examination failed to discover any actual joint lesion. The tenderness and pain were confined to the internal lateral ligament and about the origin of the tibialis anticus. There was some thickening and tenderness at the metatarsopharyngeal joint—great toe, and while he had a good arch, this gave way as he stood and walked.

The diagnosis was made in accordance with the above findings; the knee was strapped with rubber adhesive plaster, and a shoe built to fit the under surface of the foot in repose.

November 15th, practically cured and happy over a return of his former mode of living.

December 11th, discharged cured.

In the winter of 1912 and of 1913, I saw him in Augusta, Ga., and there had been no return of symptoms.

Case III (No. 11079). A gentleman, aged 26, came under my care, December 10th, 1911, and a diagnosis of acute synovitis with periarthritis, traumatic, was easily made after obtaining the following history and findings:

On stepping from a subway train to the platform, December 6th, he fell into an open space, striking the lower part of the shin and knee left side. The former was "barked" and the latter bruised a little, but not enough to prevent him walking up the steps and to his hotel, and dancing all that evening, the discomfort being trifling. Next day he consulted his doctor, who dressed the shin and strapped the knee. Swelling naturally followed, and pain increased. On the fourth day I found the strapping had given no relief; he was lame, the contour of knee was far from normal, there was a moderate amount of fluid in joint, the range of motion was very nearly normal, and the points of tenderness were at the insertion of the quadriceps tendon into the patella and over the tubercle of the tibia. These parts, it seemed to be, had been strained in his efforts at pulling his foot out of the space between the car and platform. As he

was soon to sail for a position in the Embassy at Rome, I decided to rest the joint at once; so applied a plaster of Paris bandage over a skin-fitting stockinette, with knee in slight flexion, permitting him to use the limb moderately in walking.

Next day I cut a window from the upper border of the patella to the tibial tubercle, as I had not taken the precaution to pad these sensitive points, when running on the plaster of Paris.

December 18th, seven days after his first visit, he was so much improved that I removed the plaster of Paris, making it into a splint for night use. The knee was strapped with adhesive plaster, and on the 26th he was discharged cured and all treatment discontinued. He sailed next on his foreign mission.

April 25th, 1912. His mother tells me that he has had no recurrence of any symptoms and is attending all the social functions connected with the Embassy.

Report has recently—this summer—come to me that there has been no relapse.

These two cases just reported in detail presented no difficult points in diagnosis, according to my way of thinking, and the indications for treatment were perfectly clear, the results justifying the method adopted.

Let me call your attention to an injury done the subpatellary bursa—many coming under my observation and when recognized early—say, a few days after—the trauma responded promptly to treatment.

Case IV (No. 11044A). A boy, 12 years of age, was seen at his home, November 14th, 1911. While playing tennis, September 14th, he fell on the right knee and was obliged to discontinue playing. The rest gave so much relief that he played next day and the following; but swelling and pain resulting, a doctor was called; the knee was strapped, and at the end of the week he was so far relieved that he resumed his tennis without the doctor's consent. The exercise served but to add additional trauma, and he was obliged to take to bed. I found a moderate enlargement of the popliteal bursa with decided enlargement under the ligamentum patella and thickening with tenderness around the tubercle of the tibia. There was no fluid in the joint and the range of motion was very good, if carefully made. My diagnosis was traumatic periostitis and subpatellary bursitis.

A strapping with adhesive plaster secundum artum soon afforded relief, and by the 24th he was so far advanced toward a cure that he was allowed to go to school. There has been no relapse.

One sees quite frequently cases of traumatic synovitis where simple measures afford

relief; but these measures are not continued long enough to effect a cure, and recurring traumata induce a chronic arthritis requiring more persistent protection. Take as illustration the following:

Case V (No. 4537). A gentleman from Texas, age 25 years, came under my observation, April 29th, 1898, with this history: A year ago sprained the right knee alighting from a buggy and was laid up for at least a month. Plaster of Paris was employed at the outset, and on its removal a month later nothing was done to restore the tone of the muscles protecting the joint. He was simply put on crutches, and continued their use up to the date of his appearance at my office, although a leather splint had been worn night and day, keeping the movements out of commission all the time. Even thus protected he injured the joint twice during the year. He complained on attempts at using. There was very little change in contour and the comparative measurements showed no difference in the thighs—one inch increase directly over the knee and three-quarters of an inch atrophy of the calf, patella freely movable, flexion not beyond a right angle without pain, extension to the normal limit. I could detect no lesion of the semi-lunars.

The indications seemed clear enough, and I soon had him fitted up with a brace known as the Campbell brace, which protected him from lateral strain, distributed the strain in walking throughout the entire limb, and allowed a range of motion equal to his own. This brace was attached to the shank of the shoe, and care was taken to avoid any pressure on thigh or calf muscles. The important feature, however, in the management of the case was daily massage with active and resistive movements. The improvement was quite apparent from the start, and by the twenty-first of May—less than a month—the crutches had been abandoned, the pain was no longer present and the range of motion had increased nearly to the normal. A week later he was so well advanced toward recovery that I allowed him to return to Texas with instructions to continue the brace until all traces of the trouble had disappeared.

Quite recently, August 14th, 1913, fifteen years later, he called at my office socially, but really to express his gratitude, and to tell me that the cure was established within a few months after his return home in May, 1898, and the knee had remained well for fifteen years. Then he bruised it one day last spring, but within a week all was well again, and there had been no further trouble.

In illustration of this same point, let me cite another case requiring more vigorous treatment.

Case VI (No. 11036). A gentleman, 40 years of age, from New Orleans, consulted me, November 9th, 1911, and my diagnosis was subacute synovitis, traumatic. He came soon after the injury two weeks previously, playing golf. The presumption was he played in poor form different from that of our presiding officer. The wrench was pretty severe, but next day he played again and twenty-four hours thereafter he had a well marked hydrops articuli, which persisted up to the date of his visit to my office. The measurements were: right knee, 13 3-4, 13 3-4, 12 3-4; left knee (affected one), 16, 16, 14 1-2. Flexion to 90 degrees was resisted and painful, while extension was normal.

The Paquelin cautery light touches, followed at once by criss-cross strapping of rubber adhesive plaster, leaving free the popliteal space, was the treatment adopted, and he was encouraged to use the limb in moderation.

The fluid was perceptibly less within a week; but at the end of another week, while the fluid was still present, he complained of pain on use and was not much encouraged.

The aspirator was used, quite emptying the joint cavity, and a skin-fitting plaster of Paris was applied. The fluid was sent to the laboratory, and the report was that a serous exudate with a few blood corpuscles was all that the specimen revealed. No pus, no bacteria, and no tubercle bacilli.

At the end of a week I substituted for the plaster of Paris a Campbell brace, and with the joint thus partially protected he returned to New Orleans, where Dr. Hatch continued the treatment begun in New York.

On November 28th, 1912, a year later, I had an opportunity of examining, and made the following note:

“Quite well for at least three months; wore brace two months, and then for the rest of the spring the knee was strapped; in summer playing golf without pain. Knee same size as its fellow; joint function good and painless.”

Lest the records already presented may give the impression that a diagnosis of an acute or a chronic synovitis is always easy, I beg to present an illustration of how one with a very large experience can easily make an incorrect diagnosis.

Case VII (No. 5133). A young lady, about 18 years of age, was referred to me by the late Dr. Francis Markoe, October 23, 1899, and I made out a “subacute chronic arthritis left knee with very little impairment of function;” because the history obtained was, that five years ago, while bathing, was conscious of a strain from a bruise of the knee, was lame for a day or two, but a rubbing brought about prompt relief and for three months no sign or

symptom was noted. Without any more injury she began to favor the limb in use, and this disability has continued without interruption to the date of my first observation. Once or twice during the five years she has complained of pain in one or the other elbow, and the case was regarded as "rheumatism," although the measures usually adopted for such cases, such as douches, medication and a course at Richfield Springs failed to afford relief.

The day she walked into my office there was a distinct lameness, but the range of motion was unimpaired. On flexing and extending I could feel a rice body-like crepitation; but there was nothing present in the other knee. The comparative measurements were practically identical. The quadriceps femoris was weaker on the left side. Because of the long standing of the lameness, I provided her with an apparatus to diminish the strain in walking and proceeded to strengthen the quadriceps.

By the latter part of November, while she walked with more ease, she was distinctly more fatigued after moderate walking. Potassium iodide was prescribed; but she could not get beyond ten grain doses without physiological effects. Massage was continued without interruption. A medical man, the late Dr. Kinnicut, helped me out in antirheumatic medication. She attended regularly, and yet at the end of eighteen months she had made very little progress; in fact, we were disappointed, and, as she suffered very little and was able to keep up with her social duties, we practically relied on time as about the best factor in therapeutics.

In January, 1901, she married and moved to Boston; where she consulted Dr. Goldthwaite, who, after a very careful examination, wrote me that, on finding a marked spasticity in her flexor muscles, especially the gastrocnemius, he made out a "lateral sclerosis," and no real true lesion whatever. He had his diagnosis confirmed by Dr. Walton of Boston.

In April I had an opportunity of going over the case again and noted the signs Dr. Goldthwaite had observed. The treatment advised by him was approved, viz.: a pair of plates in the shoe to give a better balance.

In due time she became a mother, and nothing active in the way of treatment was done until after confinement.

In February, 1903, I had another opportunity of examining the patient, finding the same crepitation in both knees, the same fatigue after walking. Curiously enough, however, she told me that while in the mountains the summer preceding she walked five miles without any fatigue. I had Dr. C. L. Dana see the case with me, and he made out a myopathy or

dystrophy after finding exaggerated reflexes both sides, a Babinski reflex with no reaction of regeneration. His prognosis was that it could be arrested by mild massage and avoidance of strain or fatigue.

This case, therefore, started with an apparent knee lesion induced by trauma, and proved most instructive, because of my good fortune in being able to follow it through all of the phases of the neurosis.

Among the odd things happening to a knee as a result of trauma, one finds occasionally a steno-synovitis of the hamstrings and not infrequently a rupture of the tendon of the quadriceps, as the following briefly reported will illustrate.

Case VIII (No. 11244). A gentleman, age 32, was referred to me by Dr. DeWolf of Providence, R. I., April 13, 1912, with a history of an injury to the left knee from a fall with joint in sharp flexion at which time the doctor found extreme tenderness over the external hamstring near its insertion, the joint apparently not involved. Under bandaging he got no relief and five or six weeks later underwent a course of baking in super-heated air. A month afterward distinct crepitation with swelling over the hamstrings and limitation of full movements were prominent features. An orthopedic surgeon in Boston confirmed Dr. DeWolf's diagnosis and advised a week's rest followed by douches, massage and electricity. After six or seven weeks' treatment, and pain on use persisting, the surgeon advised an arthrotoomy, under the impression that a lipoma arborescence had developed. All of this antedated his visit to me in April, when I found swelling in popliteal space on extension to 170 degrees, and lameness and fatigue easily induced. There was a moderate degree of atrophy of thigh, knee and calf. I was unable to detect anything within the joint by palpation. My advice was massage with full extension, as all acute symptoms had disappeared. Three weeks under this treatment proved beneficial, and I found range of motion perfect, thighs and calves same size and cure about complete.

A letter from the patient, November 15th, 1912, contained the following:

"Your diagnosis was correct, the treatment you prescribed successful; my knee is now entirely well."

As a rule, swelling in popliteal space is suggestive of a hydrods articuli because the popliteal bursa often communicates with the synovial sac, but when the sac can be found quite free of any effusion a bursitis of the popliteal may exist independently of any synovitis. The teno-synovitis in the case just reported easily explained the bursitis.

The following is hardly pertinent to the present discussion, but because of the slight flexion deformity and the lameness referable to the knee, to say nothing of the relief afforded by operation, prompts me to make a brief abstract.

Case IX (No. 5520). An elderly gentleman, age 70, in 1898 had a partial separation of the tendon of the quadriceps from the patella. Enough of the tendon was left to enable him to get about with a limb only. This was on the right side and he had to exercise great care to keep from falling. He took a tumble a few days before I saw him, September 20th 1900, completely separating the tendon of the quadriceps from the left patella, and his gait was awkward, indeed. The transverse depression just above the patella was so marked and the history was so clear that a diagnosis was easily made, and on my advice he entered my private hospital. Two days later when under ether through a longitudinal incision the torn fibres were exposed, revealing a laceration of the capsule. Part of this was removed, the rent sutured, and the ends of the tendons sutured to the patella with kangaroo tendons. The joint was dressed posteriorly and limb secured in plaster of Paris. The dressing was removed on the sixth day, healing about complete, the case acting to a wish.

On November 28th, two and a half months from date of operation, full active extension and flexion was made easily; he walked well; could get on and off a car without any trouble, and the cure was fully established.

The lesions of the knee calling for an arthrotomy are varied—loose bodies, torn semilunar cartilages, lipomata arborescences or fatty fringes—do not, as a rule, respond to anything short of operation. Because of the old dread of opening a joint, especially the knee joint, the older surgeons have advised against this procedure; but within the past decade there has been a decided change in sentiment, current literature being full of successful cases, and one hardly feels like reporting unless he can count his operations into the hundreds.

Take, for example, a discussion on injuries to the knee-joint other than fractures and dislocations, at the recent meeting of the British Medical Association at Brighton, in July. Dr. A. M. Martin of Newcastle-on-Tyne, presented a series of 509 operations on the semilunar cartilage. In this series he found the external semilunar was torn in only 38 cases. The common type of injury was a split from before backward. He contended that the cartilage could not be torn from its attachments when the knee was extended, and his cases so

carefully studied proved the point he tried to establish.

Whitlock of Oxford was just as positive that lesions of the semilunar cartilages were always caused in partial flexion of the knee combined with external irritation. But his experience was by no means as great as that of Martin.

In this discussion, which was reported in abstract (*Medical Record* for August 6th, 1913, page 314); the concensus of opinion was that complete removal of the injured cartilage gave far better results than any attempt at suturing.

While my own experience has extended over a number of years, I have failed to collect my cases for statistical study, yet I am convinced that the opinion expressed by the English surgeons is the correct one.

My method of handling these internal derangements is about as follows:

An attempt is made to reduce the cartilage, if it be subluxated, hold it in place with adhesive strips and reinforced with plaster of Paris for a few weeks; then apply a Campbell brace, limiting the range of motion commensurate with ordinary use of the limb, the brace preventing the trauma of use, or lateral displacement. In a certain number of cases this treatment is quite efficient. Take as illustration the following:

Case X (No. 2047). A young man, 18 years of age, came under my care on the 7th of March, 1892, and I immediately diagnosed the case as internal derangement of the knee interpreted as occasional subluxation of the internal semilunar cartilage and resulting synovitis. Eight or nine months previously, while turning a somersault, he missed his footing as he came over, the left knee was abducted rather sharply, and he felt something slip. He remembers this very accurately, and puts his finger upon the spot which is directly over the internal semilunar cartilage. He found some difficulty in extending the limb, but did so very quickly, while something slipped into place. He paid no further attention to it, played tennis all the afternoon, but a half dozen times since then, if he started quickly to run, or if he arose quickly from a sitting posture, he would experience a sensation of something slipping. The pain caused thereby would last only an instant, something would slide into place, and he would be all right again. Two weeks before he came under my observation, while catching a ball, the slipping recurred, and he did not recover from this as quickly as before; in fact, he had not recovered up to the time of his visit to my office.

This injury was followed by a good deal of

effusion into the joint—a sign of synovitis. The limb was put up in a water-glass bandage by the local physician, after adjusting a posterior splint, but the cartilage was not reduced. He was able to extend the limb only to an angle of 150 degrees; there was distinct swelling over the internal semilunar, but there seemed to be no complete subluxation. The limbs were practically the same in size. By the pressure of my thumb over the cartilage and a sharp flexion, followed by extension and some further manipulation, I seemed to get the cartilage into place. The treatment by adhesive plaster of Paris bandage was applied immediately, and this was changed from time to time until July 11th, when he was apparently well. There was no lameness, no disability. I saw him again in the fall and there was no relapse. He was attending to his athletics in college.

On December 7th, 1902, I had a report that he was entirely well.

What I have found as a sequence of a number of cases of this kind is a certain apprehension lest something may happen to the knee; but where a good course of massage can be followed, the muscles regain their tone and nothing further happens. In the majority, however, things do not go on so well, and I have found it necessary to remove the cartilage, making a pretty thorough arthrotomy. If the lesion has persisted for a long while, and if recurring attacks of synovitis have been the rule, I not infrequently find great thickening of the alar ligaments, requiring removal of these as well as fatty masses throughout the joint. In at least half a dozen operations, in the present year, I have found fatty tumors within the joint. I could illustrate this point by a recital of many from my records, but they would add nothing to the statements already made. With us the all-important question with patients is the subsequent function of the limb. All have an impression that the full range of motion will not be restored, and I find it necessary to employ passive motion from two to three or four times under anesthetic, following this always with immediate massage. They often object to any further anesthesia, but I am obliged to insist on more vigorous passive movements at the hands of the masseur, and these patients, as a rule, prefer this to any further operative measures.

One of the most obstinate, I am sure, will be of enough interest to report in detail:

Case XI (No. 8158). A lady, 51 years of age, came under treatment, April 11th, 1906. My diagnosis was chronic arthritis of the right knee, traumatic, with lipomata and enlarge fringes. The history she gave me was the following:

In July, 1904, she fell on the sidewalk and apparently tore one of the semilunars. There seemed to have been a pretty sharp arthritis requiring plaster of Paris and a rest in bed for a period of five months. All efforts at relief were unsatisfactory, and with this history I had no hesitation in advising an arthrotomy at once. To this she objected so strenuously that I proceeded to treat in the usual way, giving her a Campbell brace, but the operation was done within two or three months afterwards and I found fatty masses about the size of one's thumb and thickening of the fringe, cartilages remaining intact. The return of motion was tedious, on account of the pain induced; so I was obliged to move the knee half a dozen times in the next few months under anesthesia employing massage immediately after each brisenent force. She finally wearied of remaining in the hospital and I allowed her to return to her home in the northern part of the state, giving her full instructions about active and passive movements. She learned to strap the knee very well, and continued so to do until all thickening had disappeared. When I last saw her, in January, 1909, she walked without a limp, going up and downstairs naturally, with full extension and flexion to an acute angle. The limb is well developed. I have heard from time to time of this patient through mutual friends, and I am quite sure that there has been no relapse.

While preparing this paper, I recall a few where it was necessary to do an arthrotomy two or three times, as I had failed to remove completely all offending material from the joint cavity. In my later series, however, I have had no such ill luck, because I have been most careful to explore the joint carefully and remove every tissue that might be of any annoyance.

One of the most obstinate cases of this type that I have had to deal with—one in which both knees were subjected to operation, not by myself, however—is the following:

Case XII (No. 10418). A gentleman, 35 years of age, referred to me by a patient on whom I had done an arthrotomy with brilliant results, came under my treatment on the 11th of August, 1910, for a double chronic hydro-s-articuli. He gave a history; that five years prior to this date, without provocation the right knee began to trouble him; had no treatment other than elastic knee cap; got some relief from using arch supporters but in January, 1910, seemed to have developed a lesion in both knees and was operated upon by a prominent homeopathic surgeon in New York; and in July—a month before I saw him—a second operation was done by the same surgeon.

I found fluid in the right knee, the fringes apparently a little enlarged; and in the left knee, while the contents in the synovial sac were not so thick, there was decided evidence of water in both knees. The popliteal bursa on both sides were enlarged.

The treatment adopted was the cautery and tapping both knees. This was continued for several months with at least half a dozen tapings. He would get apparently better, and then relapse; and in 1912, early in January, I aspirated both knees and injected two and a half ounces of a two per cent. solution of carbolic acid, repeating this on the right knee a week later, and within three or four days the fluid had recurred, the result being most unsatisfactory. On the 12th of January I drew off the left about an ounce of fluid and injected the same amount of a two per cent. solution of formalin and glycerin. The pain was most excessive—excruciating as he termed it—and required morphia for a day or two to give any relief. This was repeated in March, and while one knee seemed to improve the other was not any better. When I saw him last on the 25th of June, 1912, he was decidedly crippled, both knees were painful, and he held both moderate flexion; he employed a cane, and was so much discouraged that we decided to give up further active treatment. Recently, during the present summer, my masseuse saw him on the boardwalk at Atlantic City, and she reported that he was using crutches when not in the wheel-chair.

The only comment I have to make upon a case of this kind is that the arthrotomies were not sufficiently thorough, and I reproach myself for not having undertaken these operations myself instead of subjecting him to such long and expensive treatment.

Remarks on diagnosis would be incomplete without a reference to sarcoma in the neighborhood of the joint. Let me illustrate by the following:

Case XIII (No 8289). A gentleman, 35 years of age, consulted me June 26th, 1906, and I made the diagnosis, subacute arthritis of the left knee, probably infectious. He told me that seven or eight months previously he had had an acute attack of rheumatism in the left arm and knee, but was not confined to bed. In February he went to Mount Clemens and took the baths, and returned somewhat relieved. Soon after his return, while standing in a trolley car, the car suddenly stopped and jarred the knee, so that it felt wobbly; but he got off and walked to his doctor's office. Since that time the knee has been stiffish and sensitive. The knee could be extended to an angle of 175 degrees with a little force, and flexed to 90 degrees only. The measurements which I have reeorded show

that there was no marked difference in size; but I thought I could detect enlarged fringes beneath the ligamentum patella.

I subjected him to the usual treatment, employing a brace, and in addition to this a skin fitting plaster of Paris because of the atrocious pain about the head of the tibia. As he got no relief, I secured an X-ray in August; and this showed a suspicious spot in the lower end of the femur. The pain at this time was so great that he required narcotics by day and by night. Two or three days later we thrust a scalpel into the same thickened tissue of the femur, and sent the specimen to the pathologist for report, which was a sarcoma. The physician who had referred the patient to me felt quite sure that the pathologist was wrong, especially as he had treated him for a chancre nine or ten years ago. So an anti-syphilitic treatment was adopted without any result at the end of a month.

On further study of the X-ray plate I was positive that this suspicious spot in the lower end of the femur was a sarcoma because of its markings; and after conclusion with Doctors Coley and Erdman, both confirming my interpretation, it was decided to do an exploratory operation with an amputation if the tumor was found. This was done on the 5th of September, and the broken-down mass was found in the lower end of the femur, the pathologist reporting later that it was true giant cell sarcoma. The amputation had been made the upper third of the thigh. Dr. Coley undertook the antitoxin treatment with highly gratifying results.

My last report from the patient, on the 25th of July, 1911, was that he was very healthy and there had been no sign of recurrence.

In the *American Journal of Surgery*, May, 1913, Dr. Walter M. Brickner, of New York, has published a paper the title of which is the following: "The Differential Diagnosis of Syphilis, Tuberculosis, Tumors and Osteomyelitis of the Long Bones." It is illustrated by X-ray prints, which correspond very closely with a large number of plates in my possession.

The text of Dr. Brickner's paper is quite as instructive as the prints, and did time permit I should be glad to quote extensively from this valuable contribution to bone literature. I am reminded, however, gentlemen, that my paper is already too long for an audience in mid-summer, but I must be allowed to detain you a while longer with a reference at least to tuberculous knees in the adult, and a recital of cases, did time permit. Suffice it to say, however, that at the present time a radical treatment, such as excision, is about the best for men and women who are obliged to earn a living. I have in mind a number of

instances where excision has served a useful purpose, but the patients have belonged to a better class, have not been obliged to work, and can afford to live in parts of the country where the best air and hygienic measures prevail. It is quite true that cases diagnosticated as tuberculosis are diagnosticated on what is known as circumstantial evidence. The knees themselves present very few signs, but because there is a history of pulmonary hemorrhage and signs pointing toward invasion of the lung, the tubercular test is regarded by of my colleagues as a valuable aid in diagnosis; but I have refrained from employing this, because I have feared a transfer of the lesion to other parts of the body, what is known as activation of a latent focus. I could quote instances where the test has been made by myself and colleagues where other joints were subsequently involved, and inasmuch as the tests made by the average practitioner are not always reliable, I find myself unwilling to employ the same. There are examples a plenty where excision of a knee in a tubercular subject has seemed to arrest the disease, especially where the patient has had the benefit of good climate and an outdoor life. Take as illustration the following, which, I am sure, would interest the members of this Association, as the patient herself spent the early years of her life in Bardstown, Kentucky.

Case XIV (No 4049). On April 29th, 1897, a young lady, 18 years of age, sought my advice for a deformity of the left knee dependent upon the tubercular osteitis. When ten years of age she had the first sign of trouble of the knee. Symptoms were slow in developing, obscure. Without going into detail the history is that which we find in the large majority. She was fairly comfortable one the knee was held fixed in an angle of about 150 degrees. There was a little puffiness on the outer side of the ligamentum patella. She had been through the usual treatment of braces, plaster of Paris, etc., and had become thoroughly discouraged.

I did an excision on the 3rd of May, 1897, placing the limb in slight hyper-extension, as she was short in stature, and I thought that she would be able to walk better. The wounds healed without any suppuration, and on removing the plaster a brace was applied to ensure a better fixation and give her more confidence in the use of the limb.

The further history of the case may be summed up in this way: She became a wage-earner, a year or two later serving as reporter on the *New York World*; had a hemorrhage of the lung, and was sent by this newspaper to Arizona, where she spent many months in the saddle, gaining rapidly in flesh and becoming

quite active. As she was returning home in 1901, the early part of the year, she attended a dance in Denver, and danced so well that a distinguished surgeon, her partner in the dance, was amazed at her ability to get about so well, not recognizing any lameness whatever. Shortly after this she returned to the city, and I could find no lameness. She has continued well up to the present time. Early in June, 1904, she was married, and has since given birth to a healthy child, and has never regretted the operation of excision.

In closing, I beg to say that in eleven cases of old tuberculous knees, long since healed, in which I did an arthroplasty, after Dr. Murphy's method, I have been disappointed in the results. In no single instance has there been enough motion given the patient to use the limb without apprehension. Dr. Baer of Johns-Hopkins, and you know, has had some excellent results in an operation which consists in the insertion of a chromicized pig's bladder between the ends of the bone securing it with interrupted sutures. Many of us have done this operation, but our results have not been equal to those reported by Dr. Baer. I do not wish to be understood as criticising; on the contrary, I believe these procedures are perfectly justifiable. Ankylosed joints will ultimately be restored to motion, and we shall all be indebted to the pioneer work of these eminent surgeons.

COUNTY SOCIETY REPORTS

Adair—The Adair County Medical Society met at Dr. Cartwright's office on Thursday, October 9th, with the following members present: S. P. Miller, President; U. L. Taylor, Secretary; W. J. Flowers, B. J. Bolin, W. R. Grissom, C. M. Russell, Garland, Grssom, W. F. Cartwright, and S. J. Simmons. The minutes of the last meeting were read and approved.

B. J. Bolin was first on the program for the day and read a paper on the financial problem, or how can doctors make their business more profitable. The paper was a good one, and was discussed and endorsed by nearly every member present.

After this the meeting was interrupted by the announcement of the death of Dr. W. H. Wathen, of Louisville, Ky. The society was immediately adjourned, and a committee appointed to draft some suitable resolutions expressing the feelings of this society on the great calamity to the society, and the medical profession generally. All the members present were appointed on that committee, with U. L. Taylor as chairman. The committee was directed to report at the next meeting. The following is the report:

Whereas, the sad news has come to us, that Dr. W. H. Wathen, under whose teaching every member of this society has sat, and whom every

one has learned to love and every one has been made sad by his untimely taking off; therefore be it

Resolved, That in the death of Prof. Wathen the United States, the State of Kentucky, the city of Louisville, and every county society has sustained an irreparable loss.

And Whereas, the medical profession in all the land has lost an able councillor, every young physician a loyal friend, his widow a loving husband, his son a noble father, the community in which he lived a loss that cannot be repaired.

Resolved, That a copy of these proceedings be sent to the family of the deceased, a copy be furnished to the JOURNAL, and a copy be spread upon the minutes of this society.

U. L. TAYLOR, Chairman,
W. F. CARTWRIGHT,
W. J. FLOWERS,
C M. RUSSELL,
W. R. GRISSOM,
S. J. SIMMONS,
B. J. BOLIN,
S. P. MILLER,
GARLAND GRISSOM,

Committee.

Bell—The regular meeting of the Bell County Medical Society, was held at Middlesboro on the evening of December 12th, at the Middlesboro Hotel. The business session was called to order by the President, Dr. Jacob Schultz, and the minutes of the previous meeting were read by the Secretary and approved as read. This being the last meeting of the year, the scientific papers were dispensed with in order to get through with the election of officers for the ensuing year, and to discuss some other matters that were to come before the meeting. The name of Dr. Price Martin was presented for membership in the society, which was referred to the Board of Censors to be reported on at our next meeting.

County Attorney Chas. I. Dawson, was presented to the society, and in a very impressive way, laid before the society some of the deplorable conditions that exist in the county, in regard to the reckless spread of venereal diseases and asked the co-operation of the Bell County Medical Society in coping with the situation, and furthering legislation along this line. As usual in all things that stand for better social and hygienic conditions, he found the society ready and willing to render every aid possible, and the society promptly passed resolutions endorsing the passage of a bill by the next legislature, requiring all physicians to keep a record of all venereal cases treated by them, that shall be open to the officers of the law, when necessary to refer to these records in the prosecution of any case.

The election of officers was then taken up and the election resulted in the election of the following officers for the year 1914:

President, Edward Wilson, Pineville; Vice-

President, W. K. Evans, Middlesboro; Secretary and Treasurer, O. P. Nuckols, Pineville. H. C. Chance was elected Censor for the years 1914, 1915, and 1916.

The retiring President, Jacob Schultz, entertained the members of the society for the balance of the evening in his usual charming way, and at this juncture invited those present to repair to the large dining room of the Middlesboro Hotel, where a most excellent dinner awaited them. It goes without saying that all good doctors enjoy a good dinner, and this was no exception to the rule.

Jacob Schultz acted as toastmaster and the following toasts were responded to:

“The Family Doctor,” J. Harry Hendren.
“The Doctor and Society,” L. L. Robinson.
“The Specialist,” J. P. Edmonds.
“The Booster and the Dinner,” H. C. Chance.
“The Ladies,” U. G. Brummett.
“Scientific Medicine,” Fred D. Haston.
“The Signs of the Times,” J. G. Moss.
“The Bell County Bunch,” O. P. Nuckols.

After a late hour, the dinner and all the speech making being over, the society rose to their feet in a vote of thanks to Dr. Schultz, and a renewal of their zeal for the Bell County Medical Society and for the incoming year to be the best in its history.

O. P. NUCKOLS, Secretary.

Christian—At 1:30 P. M., Tuesday, August 19th, the Christian County Medical Society was called to order by the President, Dr. Stites.

After reading and approving the minutes of the last meeting the following members answered to roll call: Rozzell, Barnes, Gaither, Caudle, Lackey, Keith, Barker, Watts, Bell, Perkins, Lacy, Sargeant, Rudd, Harned, Thomas, Stites, Durham and Sandbach. We had with us Dr. A. T. McCormack and Dr. Curry of the State Tuberculosis Commission

Austin Bell presented a case of “Addison’s Disease.” This case had been before the society before and all were glad to see it again. Dr. McCormack advised arsenic in some form. Dr. Sargeant advised tonic treatment in absence of acute symptoms. Dr. Bell read from Osler in discussing the case.

J. G. Gaither reported a case of heart trouble. Dr. McCormack thinks it aneurysm but does not know of what. There is an insufficiency and roughening of all four of the valves. Most remarkable case he had ever seen.

B. A. Caudle reported a case of “Carbolic Acid Poisoning,” with recovery.

W. S. Sandbach reported a case of “Concentrated Lye Poisoning,” with death as result.

W. A. Lackey spoke on a proposition for establishing a tuberculosis hospital, followed by Drs. McCormack and Curry. A motion was made by Dr. Sandbach and passed for the President to appoint the committee of three to go before

the fiscal court asking that the county be declared a district for establishing a tuberculosis hospital. The President appointed Drs. Barker, Barnes and Sandbach to be assisted by the county and city health officers.

No further business, we adjourned to meet the third Tuesday in September.

W. S. SANDBACH, Secretary.

Christian—The Christian County Medical Society met in regular session in the Avalon, Tuesday, September 16th, with President Stites presiding.

The minutes of the last meeting were read and approved.

Those present were P. M. Stites, Perkins, Woosley, Gaither, Donnelly, Bell, Keith, Gates, Rudd, Rozzell, Lacy, Sargeant, Harned, Harris, and Sandbach.

Austin Bell, Gaither, Rozzell and **Sandbach** all reported cases and each case was freely discussed.

J. G. Gaither read a paper on "Primary Dressings for Compound Fractures, and exhibited a case with perfect results illustrating his paper.

W. W. Rozzell read a paper on "Preventive Blindness." He also exhibited a case showing his method of treatment and good results.

Both papers were discussed by nearly every one present and we adjourned to meet again the third Tuesday in October.

W. S. SANDBACH, Secretary.

Franklin—The Franklin County Medical Society met in the office of Drs. Williams & Mastin, December 1st, at 2 P. M. Present, J. T. Minnisi, Budd, Heilman, Dawson, Darnell, Wilson, Mastin, Keller, Coleman, Garrett, Patterson, Stewart, Montfort, Hill and Williams.

D. S. Wilson, Councillor of Louisville district, was present, and discussed the aims and needs of the county society in a most entertaining manner with many useful suggestions which were discussed exhaustively by the members present and resulted in a reorganization of the society, after which it was moved and carried that the next meeting shall be on the first Monday in January, at which time a social feature shall be inaugurated. In pursuance of which a committee on entertainment, composed of U. V. Williams, Budd and Montfort, were directed to prepare a suitable entertainment. It was facetiously suggested that the road to success of this society and the awakening of enthusiasm might be reached by stimulation of the gastronomic diversion.

G. A. Budd and **Garrett** were appointed and accepted to prepare papers for the meeting.

Being the date for the annual election of officers, G. A. Budd was elected President; H. S. Keller, Vice-President; U. V. Williams, Secretary

and Treasurer; J. W. Hill, Delegate; U. V. Williams, Patterson and Hill, Board of Censors.

Meeting adjourned

U. V. WILLIAMS, Secretary.

Taylor—The Taylor County Medical Society met in the office of the Secretary. Present, Drs. Heistand, Reesor, Sanders, Gowdy, S. H. Kelsay, and Atkinson.

C. V. Heistand reported the following cases:

(1) Further report on case of "Hemophilia," recovered, having treated it with ergot and lime water.

(2) Case of triplets delivered at seven months, two placentae.

(3) Child five weeks old, convulsive movements toward right side. This is the fourth child of same mother, all of whom are dead except the last, which he thinks will die.

(4) Reported six cases of typhoid fever in one family this summer and autumn.

(5) Reported a series of cases of diphtheria, several of which had an eruption. Cases probably diphtheria complicated with scarlet fever.

Reports of some of the members on some anomalous cases of conditions of children at birth evoked a discussion on "Maternal Impressions."

J. L. Atkinson reported a case of erysipelas in a child one year old to which he administered 5 c.c. antistreptococcic serum, repeating the dose in eight hours. Prompt recovery.

C. V. Heistand says he uses lotion of zinc oxide and water for erysipelas, with satisfactory results.

E. L. Gowdy read a paper on "Buttermilk as a Therapeutic Agent." A splendid paper which is enclosed for the JOURNAL.

Next meeting, December 4th, to be held at the Merchant's Hotel to be followed by a banquet.

J. L. ATKINSON, Secretary.

Benzol in Leukemia.—Fossati's patient was a young woman with severe splenomedullary leukemia, not imminent when a course of benzol treatment was given and prompt improvement followed. The young woman was not able to bear the large doses of benzol that have been advocated, so the dosage was only from 20 to 60 drops in capsules, suspending the treatment for a day or so occasionally. The temperature returned to normal and by the end of two months the general condition was better than it had been since the first symptoms had been observed a year before. The blood-count at various dates is tabulated showing the increase in the reds and the drop in the whites from 360,000 to 56,000 in three months, the hemoglobin increasing from 35 to 50 per cent.

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ORIGINAL ARTICLES

SEX HYGIENE SYMPOSIUM

I.

VARIOUS ASPECTS OF THE SOCIAL EVIL.

By H. A. DAVIDSON, Louisville.

When the social evil or prostitution is mentioned in public in this enlightened age the people throw up their hands in horror and speaking metaphorically, run from it as they would from a leper.

This evil with all its attendant evils, constitutes the greatest problem ever undertaken by the human race to solve. The medical profession in the past have been prone to keep their hands off when they, above all others because of their greater knowledge, should be the leaders in a fight against the forces which cause more disease and suffering among men, women and children of our country than nearly all other diseases combined.

The tuberculosis problem in the beginning was considered insurmountable, but already we are beginning to see the results of the campaign of education which has been so intelligently waged by our profession and many public spirited laymen. A campaign conducted along similar lines will do much to ameliorate the condition represented by the mountainous mass of disease and corruption which is the direct result of the social evil.

It has been estimated from reliable statistics that there are 300,000 public prostitutes in the United States. This does not take into

account the clandestine or occasional prostitutes who come from fairly respectable families and work in our department stores and factories. Here in Louisville paid investigators revealed the fact that we have twenty times as many houses of assignation as there are public houses of ill-fame. These assignation houses represent a greater evil than the public houses because the women and men who frequent them do not take the same precautions. It has been estimated that the life of a prostitute will average seven to ten years; this is a conservative estimate; some reliable investigators place it as low as four years. This fearful mortality means that there must be a constant supply of young girls and women to fill the ranks and meet the great demand, therefore, 50,000 new recruits enter the ranks of prostitution every year.

Why do so many of our girls become prostitutes?

In the first place many of them are seduced by some boy or man. We cannot get away from the fact that the source of the most of this evil originates with the male portion of society, or as one has said the male factor is the chief malefactor.

A woman's love of fine clothes and entertainment is the cause of her downfall in many cases. Bad home surroundings and alcoholism are contributing causes. In some of our department stores the girls are paid such low wages that it is impossible for them to live upon the amount paid. The employer of these girls must know that they make on the side the extra money necessary to supply them with proper clothes and amusement. No doubt the chief contributing cause is that false social code of morals which readily con-

done in the man what it unsparingly condemns in the woman. Doubtless there are some women who are fated to prostitution through their inherited tendencies to vice. In the words of Prince Morrow, "The woman in most instances becomes a prostitute not from deliberate choice or from inherited tendencies, but because her ruin has been accomplished by seduction, fraud or force; she remains a prostitute because men pay her to do so; she sells her body because society does not permit her other means of livelihood."

It is in the role of transmitter of syphilis, gonorrhoea and chaneroid that the prostitute becomes the greatest menace to the human race. Reliable authorities have established the fact by means of the Wasserman test that 80 to 90 per cent of the prostitutes are infected with syphilis, practically 100 per cent. of all prostitutes have had gonorrhoea. Investigations have proven the fact that practically no woman can practice prostitution more than a few weeks without becoming infected with one of the venereal diseases.

With the above information before us we are prepared to understand that 75 to 80 per cent. of all the male population have had gonorrhoea and many of these cases are uncured, although not apparently active. Because so many of these cases are not completely cured 1,500,000 innocent wives are infected in this country to-day. Another natural sequel is the 10 to 20 per cent. of blindness in children due to gonorrhoea. While syphilis is not as prevalent as gonorrhoea we have millions of cases in this country, the estimates of various authorities ranging from 5 to 18 per cent of the population. Nearly 70 per cent. of all syphilitic infections in married women are traced to contamination by the husbands. Neisser and Noeggerath state that from 45 to 50 per cent. of all sterility in women is due to gonorrhoea; 75 to 80 per cent of abdominal operations on women are due to gonorrhoea. Price, of Philadelphia, says that in a series of 1,000 abdominal operations, 95 per cent. were the result of conditions due to gonorrhoea. Lydston states that gonorrhoea cripples one in one hundred of the population and kill one in two hundred.

When we think of the large number of defenseless wives and innocent children infected by syphilis and gonorrhoea transmitted by the prostitute through the husband and father, then it is we realize the magnitude of the danger and the great necessity of remedial measures. What can be done to remedy the evil? Reglementation, which has for its object the hygienizing of prostitution by eliminating all sources of disease in the woman engaged in it, has been tried in most European countries and has been a failure. Hamburg is prob-

ably the only city where it is still practiced. Reglementation only affects the public prostitute and the clandestine prostitute is left to spread infection broadcast. One reason it has failed is because it does not take into account the male source of infection. A woman might be given a certificate of good health and within ten minutes be infected with gonorrhoea by a male carrier. It has not been popular in this country, in fact has been introduced only in one state, Missouri, and there it was in operation for only a brief period (about one year), when the law was swept from the statute books by an avalanche of protests from the citizens of the state.

In certain cities at various times there have been outbursts of indignation because of the brazen character of the evil and attempts have been made to run them out of certain districts. The result of such attempts has been the scattering of prostitutes over the city and later after the outburst of the citizens has subsided they settle back in their old haunts as before. Recently a new law has been passed in Iowa known as the Iowa Injunction Law, which if properly enforced will do some good. It places a penalty upon the property used for purposes of prostitution and such property may be held vacant for one year, no tenant being allowed to rent same, if any citizen prove before the Court that such property is used for immoral purposes. Such a law will close up the house of prostitution very quickly and it has been a success in a few western cities. This law has been declared constitutional by the U. S. Supreme Court.

The medical profession can do much to help in the fight against prostitution and its attendant evils. They above all others should educate the men, women and children in regard to the great dangers of prostitution. The venereal diseases if shown up in their proper light will deter many a boy and young man from having intercourse with prostitutes. It is not sufficient for the medical profession to teach methods of prevention alone, that is very good but it does not go far enough; they should teach young boys and men to be more continent. At the Brussels International Congress the specialists declare that "continence is not prejudicial to health, but on the contrary, is to be recommended from a purely hygienic point of view." Now if we as members of the medical profession believe that, why shouldn't we grasp every opportunity to make it known to the boys and men who need this information. While there are many hot blooded young fellows who will not heed your advice, there are others who will be and have been prevented from sexual excess by such information. The tendency of modern medicine to-day is toward prevention of dis-

ease and the teaching of continence is pre-eminently prevention. I would like to see the medical profession of Kentucky endorse a bill before the State legislature which would make it a penal offense for any man to knowingly infect his wife and children with a venereal disease. Such a law would assist the physician in preventing a man from marrying who is infected with syphilis or gonorrhoea in an active stage and who would be certain to contaminate his wife and children.

The medical profession should teach young men and young women who are under their care to require certificates from their family physicians before marrying. While in some states, a law with this in view has been passed, it has not always been successful in practice, but it could be made the custom before marriage to require a clean bill of health from each of the participants. Education and time could bring about this state of affairs, and the medical profession should be the chief factor in establishing this custom. Such a custom would have a tremendous influence upon the social evil. Prostitution will never be eliminated entirely until all the causative factors have been removed, such as low wages for women, alcoholism, cadet system, bad home surroundings, the double standard for men and women and most important of all the insatiable sexual appetite of man.

IS THERE A VENEREAL MENACE?

By H. J. FARBACH, Louisville.

Gentlemen, I consider it a waste of time to argue the affirmative side of this question by quoting the army and navy reports of various countries concerning the venereal diseases, by recapitulating the histories obtained in institutions for the insane, and feeble-minded asylums. Statistics in most instances are tiresome and why go so far from home for argument. There isn't a man present who has been engaged in the active practice of medicine for one year, who can not argue my question from the affirmative side from personal experience. So rather than waste time airing my point of view that is already conceded, let us consider the causes that make a venereal menace possible.

Question nine out of ten of the victims of venereal diseases and you will find that one of the main factors in their becoming infected is ignorance. Ignorance of liability of infection and ignorance of venereal prophylaxis. It is astonishing how little, even highly educated and cultured people outside of the medical profession, know of sexuality. Its proper anatomical and physiological elements and its fundamental physice influence. In public and private schools is taught the basic principles,

function and care of the eyes, teeth, voice and a general idea is obtained of the body as a whole, with the exception of the generative organs. By this ignorance of the subject, it was expected and hoped to not attract the attention of the growing mind. But the absurdity of this assumption is manifest on every hand. Sexual instincts and functions are recognized by the child before any other body function, hunger and thirst being excepted, and all of our training of children tends to direct their attention to the generative organs rather than to detract. What is one of, if not the first willful control of body functions, that is taught the child? That of defecation and urination. And is he or she not taught this control in the majority of instances through shame? So at the very beginning of life, the child is taught and instilled with the feeling that that portion of its body between its umbilicus and its knees is something that it must be ashamed of, must be hidden away and spoken of only in the illusive sense. Parents, ostrich like, have tried to evade their duty in the early life of the child, by telling themselves and those interested that their child was too young to think of anything sexual. Deep down in their hearts they own this is not true, but rather than accept the responsibility, they compromise in hoping and wishing that the child will be what they would like it to be. But the sexual instinct is present in every child, and a great deal earlier than parents like to admit. They in most instances hope to curb this instinct by ignoring it, and when it does crop out in spite of evasion, they meet the question of the child with falsehoods or with the declaration that the discussion of this subject is not within propriety. As an indication of the early development of sexual instincts in the child is the desire for knowledge of things sexual. The inquiry of a child as to the source of babies is not an idle fleeting question, it is one of the earliest and analytical actions of the rapidly growing brain. The question is asked as a rule of the mother, and is asked with the same sweet, wholesome innocence that the young seek knowledge of all things. Here is the pliant, supple clay for the parent to mould. And how do they do it? Instead of answering the question they tell some fairy-tale of Santa Claus, of the stork or the doctor's satchel. These parents must realize that sooner or later, this child, the pride of their hearts, must learn the true source of babies. But they would rather that this knowledge come from some vicious or ignorant source rather than from them, so right here at the beginning, the mother loses two great influences from her child: one that it cannot believe, as is its inherent desire to believe the truthfulness of the parent; and the other is that it must seek

elsewhere for knowledge of the thing that is most potent for much good or for much harm. So the boy gets his sexual education in the back alley and the girl from vicious companions or servants. Why do parents allow this state of affairs to continue? A few perhaps can argue ignorance on their part, but this is not true in most instances. They know from their own experiences, what the child must go through, and the one thing above all others that restrains them from saving their child so much anguish and even pain is prudery. The subject is a delicate one, one to be discussed by servants behind doors and a besmearing thing that no refined person would acknowledge. So prudery is born of and based on a distorted idea that sex is evil. But this is not true. Sex is not evil, unless we make it evil. It is true that a small percentage of the population make it evil, but have not these same people debauched, and debased everything they came in contact with? Because a parody on a masterpiece is written, does not lessen the value of or render less sweet, the songs of the great composers. And because sex has been prostituted is no criterion that it is evil.

The generative organs and the generative track were and are sacred to primitive people. But as luxury and indolence grow they give rise to the debasement of sex. This is as true to-day as it was two thousand years ago. How this is brought about and why, does not lie within this discussion, but this we must heed. America to-day, by virtue of her natural resources and by the genius of the minds of her great men, is giving our people of every class more than any other civilization has or is. The so-called poor or lower class of people in this country to-day enjoy more rights and privileges and physical comfort than do some of the privileged class of other countries. The child of the poor man is not only offered but is forced to take an education. Influence and a derth of natural resources have placed within the reach of all, the comedy and drama and the music of the world. People have been taught to think and to dream things that in the past have been for the chosen few are now the property of every one, and with this stimulant of mind and imagery, must of an necessity come the stimulant of sexuality. This is but natural and right, but it is not right to develop sexuality without developing also hand to hand with it the power to control it. In the history of civilized country or nation when the fathers of that nation become rakes and the mothers prostitutes, that nation soon ceases to exist. This is simply an ultimate result of a natural law that man cannot change. So with the general development and improvement of our race, we must not lose sight of the necessity of the development of the con-

trol of things sexual. The folly of municipal control of the adult can be seen on every hand. The regulation and segregation of prostitution does not regulate or segregate. The attempt to abolish it entirely from any large community is followed by the mushroom appearance of numerous places where illicit intercourse can be held. What then, if the law and the public cannot awe or control this will give the individual such power? Education. Man has conquered the sea. How? By solving the mysteries of the waves and wind.

In the railroad, the automobile, and the airship, the advances were made by first reducing what seemed to be a mysterious superhuman thing to cold fact and figures. And so it is with sex, as long as sexology is hidden behind a cloak of mystery, it will remain uncontrollable. Perhaps a hundred years ago, there would have been some excuse for this attitude of mysteriousness, because at that time the production of life was unknown. But that excuse is gone and it is time for sex education. Grant you, you say this is true. How are you going to do it? This is a big question, but the most important factor in its solution is the removal of mysteriousness that has been thrown around it. We are told that in doing this we will simply stimulate licentiousness. If you do it with that end in view, I agree it will. But if sexuality is taught as it should be, sensuality will lessen rather than increase. Sensuality is an attribute given to sex by prostitution only. There are a few instances in the life of the individual at which time the institutions of church and society have emphasized the sacredness of things sexual. Two of these are birth and marriage. Now if these public demonstrations of the beginning of sexual life and the results of such life do not stimulate sensuality and licentiousness, why should a full enlightenment of sexuality do so, if it too is taught in a sacred way, and at the proper time of life? It is time the world at large was discarding the attitude of the prostitute and the rakes and adopt the natural and proper because sexuality is naturally sacred. Teach the child the anatomy and physiology of the generative organs, not late, but early in life as other things are taught. Every child is born a savage. He drags a kitten or puppy around by the tail until it is dead and still in his manhood he lives and protects animals. It is just as easy to teach him that sex stands for the best as it has been to infer that it stands for evil.

I have not made much mention of the percentage of gonorrhoea and syphilis. We all know how prevalent and rapidly increasing they are, and we realize about how futile the regulation and the segregation of prostitution is, as a means to lessening these.

The successful control of a venereal men-

ace lies in the education of the individual. The subject is a delicate one, I know, especially from the female side, and sometimes I feel that we could ignore the female side just now. Teach the fathers and the sons they are the genetic centers. Explain to a boy at the stage of puberty, when the sexual instinct, due to his manner of education, is stronger than his will power, the dangers of gonorrhoea and syphilis. Teach him by clear distinctive argument that the controlling of his sexual desire trains and develops his mind and will power more than anything else could. Have him obtain his knowledge of sexuality from the proper sources, his father or the physician, and you will cut the percentage of venereal diseases in half in the first generation.

So what are the things that make a venereal menace possible? First, and by far the greatest, if not the only cause is ignorance. This ignorance is the result of years of prudery, and this prudery is due to the misconception that sex is evil. This conception is not a natural one, for the inherent natural feeling is that sex is sacred.

HEREDITY AND ITS SOCIAL BEARINGS.

By JOHN D. TRAWICK, Louisville.

Child culture within the last few years has come to be so vital a topic for serious discussion, that we are finding ourselves actually a generation ahead of the results sought.

There can be no doubt entertained, that from the standpoint of race improvement, the most compelling subject before the medical profession to-day is the conservation of the child life of the nation.

Specialists in every phase of child welfare are giving most serious thought to the keeping of the child already born, to the preparation of the environment in which the new life is to be moulded, and pre-eminently to the problem of securing a generation of well born children.

It is recognized that parenthood and race culture are inevitably related. But the problems involved in the study of parenthood in relation to the social body have been for so long confused in the minds of students that, little progress was made until the discovery of enlightening laws of heredity whereby a biologic basis has been established for the claim that fit parents are necessary to the production of fit progeny. As applied to the human individual, some enthusiasts who have given superficial thought to the problems involved have been bold enough to make claims which serious students of the science are not yet ready to substantiate in particular. A few of

the fundamental facts of heredity must be remembered.

The gametes or producing cells carry within their nucleus the unit characters for traits which are destined ultimately to appear in the new individual.

The unit characters are fixed by determiners within the chromosomes.

Whatever trait appears in the matured individual has been potential in the inheritance and is present in the individual by virtue of the determiner for that trait.

The absence of the determiner in the gamete (producing cells) means that the trait for which that determiner stood will be lacking in the new being produced. The persistence of the germ protoplasm must be borne in mind. The carriers of inheritance continue through the generations, determining the same trait with unflinching persistency, and are apparently unchangeable.

The child of two deaf-mute parents, each of whom have sprung from a line of deaf-mutism is reasonably sure to be afflicted as were its parents, because the conditions which determine deaf-mutism have undoubtedly been present in the producing cells from which that child sprang.

One parent of neurotic, neurasthenic type mated to another possessing tendencies to alcoholism will almost certainly produce children who are neurotic, or possibly epileptic or criminally tended.

Such studies by careful students as "The Hill Folk" "The Kallikak Family," "The Pineys," "The Nam Family," are but convincing documents in the overwhelming mass of evidence that the feeble-minded, the pauper, the criminal, the prostitute, the chronic alcoholic, the sex pervert, all tend to produce like traits in their ever increasing offspring. And furthermore, the progeny of such individuals not only possess potentialities for little culture, but actually perpetuate the strain by intermarriage and illicit reproduction until the economic burden becomes frightful to contemplate.

The chiefest advances in the study of heredity in relation to the social order have been made along the line of the anti-social or anti-eugenic traits of human beings. With fixed certainty it can be shown that the higher attainments of genius, poetical ability, scholarship, inventiveness, etc., are heritable, and in given cases practically Mendelian proportions can be deduced in the study of long strains of families of worth. But it is too soon to claim to be able to predict what will be the characteristics of progeny of a given union, from the standpoint of the reproduction of children of higher attainment. The reverse of this proposition however, is more clearly understood, because the unfor-

tunate victims of heritable defects have been clearly defined in their relationship to the community, even kept apart in institutions long enough to give sometime for definite research. This research is at best only in its very beginning, and as stated only untaught enthusiasts are making insupportable claims.

The manner in which study of disease has been taken up during the last decade and particularly within the last few years, points to a definite awakening of the medical eugenic conscience, to the importance of studying disease not merely as a condition to be immediately cured, but to consider its deeper influence upon the race. Consequently disease expressions are being more clearly classified, and preventive medicine is bringing to bear its strongest resistance against those diseases which threaten the integrity of the race.

It will be necessary to determine what diseases definitely affect the germ plasm, before we are able to pronounce upon the hereditary quality of a disease, for only those influences which touch the germ plasm, find their expression through heredity upon the matured product.

At the present moment the diseases arising from the violations of well defined laws of society are being named as most deadly agents working to the detriment of the race. It is a startling fact that society is being menaced by a misuse of the function, which society has safeguarded for its own perpetuation. The community is finding that the function of procreation is the very means whereby the stronghold of the community is being attacked, and there are being introduced into the purity of the home, all the defilements of illicit commerce in that which was created to keep the home pure. The anti-social qualities of the disease resulting from this violation of society's laws must be shown to exist before they can be classified as deadly to race integrity.

If children are born healthy and without taint into the community it is at least reasonable to presume (things being equal in their environment) that they will in due time be able to produce healthy beings, and the nation will then be that much the gainer by every healthy strain perpetuated. But if children are born with constitutions already crippled, already injured in the very process of their origin, how can there be a healthy perpetuation of the race? Gonorrhoea becomes then more than a disease or a local manifestation to be treated more or less lightly or even to be considered alone in the light of its passing manifestations. If this disease acts at all as an agent to prevent the bringing into the world, of healthy, whole children, it must be classified as a racial menace, and be dealt with in the light of this larger relation-

ship to society. The carriers of the disease then become not merely "immoral men," but more, and if possible of more deadly significance they become directly responsible for the lives menace. Whether or not, syphilitic disease can be classed as a distinctly heritable disease, in the light of the newer laws of inheritance, it can be clearly shown that the vitiation of constitution which marks the offspring of the syphilitic is as clearly a racial menace as though the spirocheta had definitely injured the germ plasm.

It matters not whether directly or indirectly these disease expressions are hurting the children or society. They must be dealt with as any other menace, whether of the epileptic, feeble-minded, or criminal type. The springs of the nation must run pure and free from taint that a goodly heritage may be the nation's portion.

MEDICAL ETHICS AND SOCIAL HYGIENE

(AN ADDRESS.)

By J. M. MATHEWS, Louisville.

It has been a long time since I have seen you, but it has not been altogether my fault. Most of the time I have been so far away that I could not get here, but I want to assure you that, wherever I have been, I have thought of you. The reason I am back here now is because of the love I have for my friends, especially among the medical profession.

I have not written an essay for to-night; I wanted to hear the other gentlemen read theirs and get my points from them.

The phase of the subject that has been allotted to me is a very practical one and concerns every individual member of the medical profession. What are the ethics, if any, by which the doctor shall be guided in dealing with patients afflicted with venereal diseases? That is the question we want to decide. From time immemorial the medical profession has prided itself—and honestly so—upon the secrecy it has maintained with respect to the relationship between the doctor and his patient. That is, as a rule a very honorable position to assume, but there are conditions and circumstances under which we labor at the present time which justify a different attitude to that which we maintained even so recently as twenty years ago. We did not then know, as a profession, the alarming truths that have been told us here to-night. It has never been impressed upon our minds that so many cases of gonorrhoea and syphilis existed in this country, nor were we ever impressed with the magnitude of the effect which these two

diseases have upon the human race. It has only been within the past twenty years that this subject has been taken up and discussed, and practically forced upon the attention of the medical profession. Assuming the accuracy of Dr. Davidson's statement that there are, in the United States, millions of cases of syphilis, and more cases of gonorrhoea, and also assuming the accuracy of the statements of the other gentlemen as to the effect of these two diseases when transmitted to the wives of those afflicted with them, it is manifest that we are not justified in screening with the veil of professional secrecy those who come to us to be treated for these terrible diseases, even though they may be numbered among our dearest friends. Suppose that a friend of yours were to come to you and say, "Doctor, I know I can trust you as a friend; I intend to kill a man to-night at twelve o'clock. If you are my friend you will say nothing about it." Do you believe there is a man in this room who, under such circumstances, would permit his love for his friend to prevent him from immediately notifying the proper authorities that this man intended to commit a murder? Therefore, we will suppose that a man who is your friend (and I presume we can take it for granted that any man who puts himself under our guidance and direction may be considered a friend) comes to you and says: "Doctor, I have gonorrhoea (or syphilis); I know I can trust you to treat me and say nothing about it to any one." Of course, under such circumstances we can keep his secret with propriety. The law at the present time does not require us to report cases of gonorrhoea or syphilis that come under our observation, although in the near future it may do so. Therefore, we are not called upon to tell any one that this man has gonorrhoea or syphilis. But, suppose, after a while, this man tells you that he intends to marry. You say, "Not now," and he replies, "Yes, the date has been announced—but remember, doctor, I am your friend and your patient, and you must not tell anybody that you have been treating me for this disease." Now what are you to do, bearing in mind what these gentlemen have told us to-night; that if he marries the probability is that he will infect his wife, possibly giving rise to a condition that may necessitate an abdominal section, and ultimately lead to her death; or, if the disease is syphilis, not only will the wife be infected, but the disease will probably be transmitted to the children. Can you conscientiously maintain an attitude of secrecy for the sake of friendship? Not at all. Then what are you going to do? You are up against it. Of course, you want to act fairly and squarely with your friend and patient, but staring you in the face is a thing almost as horrible as if

the man had said that he intended to commit murder. What are you going to do? Permit me to cite just three instances of this nature.

A number of years ago a physician of this city said to me: "I had a peculiar experience this morning. A carriage drove up in front of my office, and there emerged a lady, apparently a person of wealth. She came in and, after inquiring my name, she said: 'Doctor, I want to ask you a question and I want you to give me an honest answer. Do you know of any reason why I should not marry Mr. _____, whom I understand you are treating?'" He said that at first he did not know what to reply, but his manhood came to the rescue and he said: "Yes, I do know of a reason why you should not marry him." She said, "Doctor, I thank you." The marriage did not take place.

Several years ago a young gentleman came to me suffering from some irritation of the prostate and, believing that he had rectal trouble, I examined him. During the course of the examination, he said, "Doctor, I am going to marry. I am being treated for gonorrhoea, and while I am not quite well I will be in a few days." I asked him if he had told his doctor that he was going to marry, and he said he had not. I told him to go back and tell the doctor; that by all means he should not marry at that time. He said: "Doctor, it has been announced; I simply have to marry." I tried to persuade him not to and gave him my reasons, but soon after that I read an announcement of the marriage in the paper. Less than a year after that, in the halls of one of our infirmaries, I met this young gentleman and he was seemingly in great distress. I asked him what was wrong, and he replied that his wife was on the operating table undergoing an abdominal section. It was unnecessary for me to inquire any further particulars.

Another young man consulted me, and during the course of my examination I discovered that he had gonorrhoea. He remarked that he intended to marry, and I told him he could not think of it for some time to come. He insisted that he had to, as it had already been announced. I went to his family physician and asked him if he would help me prevent the marriage. He said he would, and suggested that he would tell the facts to the young lady's sister-in-law, which he did, but, nevertheless, the marriage took place.

A member of this society told me, a short time ago, that he was treating for gonorrhoea a young man who was engaged to be married to a certain young lady of this city. After unsuccessfully endeavoring to persuade the young man not to marry, he went directly to a sister of the young lady, and told her the

state of affairs, but still the marriage took place.

It is very often a vexing problem to know just what to do under such circumstances. You owe a duty to the patient and a duty to the public. However, I believe that, with the knowledge that a man is not fit to marry, if you do not take steps to prevent the marriage, you make yourself a party to the crime if it may be so termed. I do not believe any doctor is bound to secrecy in a case of this kind simply because the patient happens to be his friend.

The relationship between the doctor and his patient has been compared with that of the confessional, but they are not the same thing. In the confessional the individual is required to make restitution for his sins, but when a patient with gonorrhoea or syphilis comes to the doctor, all that he can require is that he will not communicate the disease to others. Dr. Joseph Price, who has been quoted here to-night, once said in a public address, that, in his opinion, every man who has gonorrhoea should be confined in prison until he recovers, because he is a menace to the public. Assuming that this is true, are you called upon to acquaint the public with every case of gonorrhoea you treat? Not all all. There may come a time when you will be required by law to report every case of gonorrhoea to the proper authorities, but until then you cannot violate the confidence of your patient. It would do no good.

There is another question of ethics that confronts practically every general practitioner. It is this: If a married woman contracts gonorrhoea or syphilis from her husband, should she be informed on the nature of the disease? So distinguished an authority as Dr. Cabot says positively, that we should so inform the wife, but I differ with him in this respect. What good could possibly be accomplished by telling her that her husband had given her gonorrhoea or syphilis? On the other hand you may disrupt a comparatively happy family and bring about a separation.

Now, what is the remedy for the conditions we have been discussing to-night? In my opinion there is but one. Dr. Cabot says he has come to the conclusion that a certificate of health from a physician is worthless, because the majority of doctors are not experts along this line and their opinions are worth very little. A far better plan is to enact a law requiring every man who desires to get married to be examined by a commission of experts. For instance, we could easily select from among the members of this society three men who would be competent to say whether any individual was in a marriageable condition. My idea would be to have a commission appointed by the Governor, consisting of three

reputable *experts* in these diseases, and to require every man (I will not say every woman, though some go that far) to secure from them a certificate of health before permitting him to marry.

In conclusion, I believe the only way to secure a remedy for the conditions spoken of here to-night is to educate the public. Just a few months ago I lectured to more than a thousand women on the subject of gonorrhoea and syphilis, and without mincing words I told them straightforward facts. A few years ago the newspapers would not publish anything that contained the words "gonorrhoea" or "syphilis"; now they publish such articles every day. Therefore, by means of public lectures, symposiums like this, and by demonstrations in museums and other places, illustrating the effects of these diseases, we may hope to eventually educate the public along this line. An old gentleman, 70 years of age, told me the other day that, when a young man, he had visited a museum in Chicago where the effects of syphilis were illustrated, and from that day to this he said he had never *experimented*. Therefore, I believe the thing to do is to educate the public with respect to gonorrhoea and syphilis just as we do about tuberculosis and other infectious diseases.

DISCUSSION.

J. A. Stucky, Lexington: Any scheme which ignores the sexual instinct as the basic cause of the social evil is bound to fail. Education, segregation, suppression, regulation, and medical inspection have all been tried, and all have failed. They have failed because you can not eliminate a primal instinct by education. Segregation failed because only a small proportion of prostitutes declared themselves, and segregation—no difference how perfect it may be—does not eliminate the social evil, but simply concentrates it within certain boundaries.

Suppression failed because it does not suppress, but scatters and multiplies the centers of infection.

Regulation failed because it was a compromise, and because it placed an instrument in the hands of officials that was used for purposes of extortion and blackmail, and that led to the debauching of public officials.

Medical inspection, the only method which gives any reason to hope that the evils resulting may be mitigated, has failed or succeeded according to the individual point of view. As carried on in this city by some private physicians, it not only contributes to moral delinquency but actually increases the number of cases of venereal diseases. A sanitary inspection was recently made in this city of about one-third of the inmates of known houses of prostitution. Twenty per cent. of the inmates were found diseased and

were working under certificates of health dated within a week of the inspection and, in most instances, within from twenty-four to forty-eight hours of the inspection. In a number of cases the diseased prostitute was under treatment for venereal disease by the man signing the certificate of health in which he stated over his signature that she was free from venereal disease. This is not medical inspection, but one way of securing money by false pretenses, and leaves no one in doubt as to which is the worse prostitute the woman or the physician signing the certificate.

Some people see a solution in a minimum wage law. Granting the constitutionality of such a law, how are employers of labor to be forced to employ people whose services are worth less than the minimum wage? On the present standard of wages a great army of women are living respectably and comfortably, although not luxuriously. What is to become of these if a minimum wage law makes it impossible for them to work? They must eat, have clothing, and places of shelter! Isn't there a very grave probability that the method employed, instead of protecting them from lives of prostitution, will throw them into it as the only source of livelihood? Dr. Watson has said that in investigation of the reasons for leading lives of prostitution disclosed the fact that only ten per cent. of these women are in houses of prostitution because of failure to make a living in other walks of life. Would a minimum wage law, even if possible of universal enforcement, remove the basic cause of the social evil? The numerous scandals in families rich in this world's goods have no possible connection with low wages, and give the lie to those who would lay the whole blame on the poor.

Others find a solution in a single standard of purity. Back of everything that exists lie definite causes, and the double standard of purity exists because of a variety of reasons. Society condones man's moral lapse. If a woman falls, she is eternally damned. Society merely elevates its eyebrows when a man goes wrong. He is the victim of a designing woman. When the woman comes up for judgment, it is a case of thumbs down. The father of the race may be a past master in debauchery, but society demands that the mother be without taint or blemish of immorality. These are some of the reasons why the double standard of purity exists.

CONCLUSIONS.

First. Segregation fails to segregate.

Second. Segregation means graft in any administration.

The principal argument of the proponents of segregation is that by such means it is possible to enforce proper health regulations. From many years' observation in the former "crib" district, however, I maintain that under the old system here, there was practically as much evil scattered throughout the city as at the present time.

Quack doctors thrived then as now, and I can not see that the youth can be "saved" by putting the civic stamp of approval and protection upon prostitution.

Before venturing to prescribe a method of dealing with this problem, I desire to make my position absolutely clear on several points without retracting in any way what has already been said.

1. I believe in a single standard of purity based on continence, not on incontinence.

2. I believe in working for a system of education on sex relations which will acquaint developing youths and maidens with a knowledge of the pathological results due to immoral practices.

3. I believe in working for the complete eradication of the social evil whether it be conducted openly in known houses of prostitution or secretly in assignation houses and private flats or in places disguised as tobacco or soft drink shops.

4. I believe in working for the correction of social and economic conditions which are partially responsible for conditions as they exist to-day.

5. Realizing, as we all must, that the ideal conditions outlined are difficult to bring about and that years must pass before they are obtained, I believe that the health problem created by the social evil should receive the same careful attention from the medical profession that is accorded other health problems.

Prophylaxis is not only the watchword in modern medicine, but its pride and glory. The debt owed our profession is not because of those we have cured, but because of those we have kept well; not because of emergencies met, but because of emergencies avoided.

Up to the present time, the deadly effects of gonorrhoea and syphilis have been overshadowed by the moral side of the question. Illegitimate sexual congress with its deadly train of complications had not been considered a subject fit for discussion or one upon which the general public should be enlightened. Would it not be better to bring it forth from the shadows, and place it naked before the world where the spotlight of publicity can beat upon it? While it is not to be expected that any plan will entirely remove the social evil, there is strong reason for believing that many of its evil consequences can be avoided by education and prophylactic methods.

The fact that all of its evil results can not be eliminated is no reason why an attempt should not be made to minimize them. The fact that venereal disease is contracted through an act of immorality is no reason why the innocent victim of that immoral act should not be protected from the consequences of it. The cause and method of transmission of venereal diseases is known. Norfolk, Va., the army and navy have demonstrated the method of prevention to those exposed. Shall we sit quietly and dream of the millenium, or shall we accept man as he is and protect him

and his future wife and children from the evil consequences of his immorality?

Medical inspection of prostitutes and the use of prophylactic means to avoid infection after contact will not prove to be a popular subject for discussion. It will not eliminate prostitution, but it does offer a partial remedy against its evil results. It is in harmony with what is being done to solve other infectious disease problems. Until the time arrives when man shall be the master of his sexual instinct instead of its slave, our duty as sanitarians is as binding to protect him from the evil consequences of this slavery as it is to safeguard his food and water supplies; our moral responsibility to protect his wife and children, as great as if he exposed them to the plague.

While divers opinions paralyze efforts directed to a sane solution of this problem, degeneracy is gaining a firmer hold on future generations. While we question one another's honesty of purpose, when our opinions differ as to what shall be done, the pit for our descendents is being made deeper and wider. What shall be do, act or theorize? Do the best we can with man as he is, or dream of ideal conditions impossible of attainment on this side of the grave?

Shall we build more hospitals, more insane asylums, more blind asylums and more penal institutions in which to house the victims of this problem, while the seeds of moral suasion are being sown, cultivated and brought to full fruition in the dim future, or shall we apply the same sanitary principles which have stayed the plague, eliminated yellow fever, stopped the spread of cholera, and rendered smallpox less deadly than measles?

Shall we handle a sanitary problem by established sanitary methods or by a series of wheries and a ringing resolution?

Shall science be given a free hand, or shall the future be sacrificed to well-intentioned emotionism and hysteria?

Which shall it be?

Leon L. Solomon: The papers which have been read to-night are surely deserving of commendation. As was aptly stated in a recent magazine article, the world is considering, not the time of day, but, as the writer puts it, "sex o'clock."

I cannot agree with much that has been said to-night with respect to the education of the young, along lines sexological. I wondered at the attitude of one of the speakers, who is inclined to look askance at museums, but at the same time heralds as educational a play called "Damaged Goods." If the presentation of such a word picture as this play to the young is accomplishing so much good, then I confess I am at a loss to understand why a study of the actual life picture by medical men and students has been productive of so little good. When, thousands of years ago, the great Jehovah handed down from Mt. Sinai his inspired message, the Ten Com-

mandments, among them, "Thou shalt not commit adultery," it must have been foremost in the Great Maker's mind that man would often be guilty of this great sin. I have a most vivid recollection of the presentation to medical students of case after case, showing the horrible effects of syphilis. These young men say, not a word picture but actual life picture—the man with his penis destroyed; the woman upon whom a laparotomy was done in the class-room for gonorrhoeal salpingitis, the child with hereditary syphilis; and I must confess that, so far as I am aware, it did not deter a single one of these men from practicing illicit sexual intercourse. I have known medical students to make engagements with prostitutes who came to the gynecological ward for treatment.

I went to see "Damaged Goods" because I was invited to do so by ladies and gentlemen representing the Purity League, and what I have to say must not be construed as in any wise derogatory to them.

The plot of the play deals with a young man who is fearful of acquiring syphilis, and in order to avoid it he chooses as his companion the wife of his best friend, knowing that this friend also had a horror of the disease and feeling that he was not likely to contract it through intercourse with the wife of such a man. If word pictures of this sort are the means of any good end, I must confess my inability to understand it. No man of to-day would contend that such a play as this would be proper to bring before a medical student who proposed to seriously study medicine, and if it is not fit for a medical student, it is surely not fit to bring before the average young man and woman. In my humble judgment, gentlemen, we are not ready for this sort of instruction.

I wonder how many single men among us to-night, who have reached the age of 28 or 30, can say that they have kept themselves pure? I venture the assertion that there are not many. Again, how many married men can say that since their marriage they have kept themselves pure?

The question is wholly a moral one and we cannot get away from it. I agree with you that we must educate the public, and let the education be as broad as we can properly make it, but let us not forget that man was commanded to increase and multiply, and sometimes the sexual part of man overwhelms him.

Only a few days ago a kindergarten teacher told me of an incident which had come under her observation. She had a class composed of boys and girls four and five years of age, among whom is a little boy of five, who is exceedingly bad, and two very beautiful little girls, and she has found it necessary to keep this boy away from the girls because one of the little girls told her that he had attempted to take liberties with her person.

I have always maintained that a man, when he faces the bridal altar, should be just as pure as

he expects the woman to be; that no man has a right to expect more of his wife, mother, or sister than they have a right to expect of him.

As Dr. Mathews has said, the question is one of moral education, and the medical profession must do it, but it is a mistake to believe that it can be accomplished by the exhibition of such vile, abominable plays as "Damaged Goods."

J. T. Windell: One of the speakers has estimated there are about three hundred thousand prostitutes in this country, and his figures are probably about correct, but I will venture the assertion that, if all of these women were to die to-night, within thirty days there would be three hundred thousand more to take their places. That prostitution cannot be eliminated has been demonstrated in practically every country in the world.

In regard to the relationship between the doctor and his patient, not only with respect to venereal disease, but any other disease, the moment a man becomes your patient you form a partnership with him, as it were, and anything connected with that partnership is sacred. I do not believe we have the right to violate that partnership if it will in any way interfere with the treatment and cure of the patient. I have had several cases in which I was tempted to inform women who were about to enter matrimony with patients under my care, of the condition of the prospective husband, but I have refrained from doing so.

There are two sides to every question. I know of one case in particular where a doctor went to the family of the bride-to-be, and told her that the young man she was about to marry had venereal disease. It happened that, at the time, the young man had no evidence of the disease that was manifest to a layman. He immediately consulted an attorney who instituted suit against the doctor and was able to secure two physicians to testify that there was nothing wrong with the young man. Such a thing is liable to happen to any of us.

Irvin Lindenberger: I would like to mention a case that came under my observation recently, illustrating another phase of this subject. This patient, a girl 17 years of age, was referred to me about two weeks ago with a suspicious looking sore on the vulva, which she said had been there for three or four weeks. From the history of the case I believed it to be syphilitic. She came to me again yesterday, and upon examination I found a marked efflorescence all over the body. I referred her to the City Hospital and told her I would see her there this morning. When I went to the hospital this morning I found that she had not been admitted for the reason that she had been in Louisville only a month.

Those of you who have read the report of the Chicago Vice Commission will recall that it contained a memorandum of the houses of prostitution in Chicago, the names of the girls and the number of times they had intercourse with men

in one night. I recall that in one case it was stated that one girl had intercourse forty-five times in one night. In the case I mentioned, this girl may infect anywhere from one to one hundred men, and yet there is no place where she can be taken care of and prevented from disseminating the infection.

In this connection, I cannot help but recall an incident that occurred in the administration of Mayor McClelland of Cincinnati, who was elected on a reform ticket many years ago. A mother brought to him her boy, 17 years old, who had lost the sight of one eye from gonorrhoeal ophthalmia, and asked him what he was going to do about it. He said he would try to do something, and started a system of examinations of inmates of houses of prostitution. If a girl was found to be new at the business, an attempt was made to persuade her to return home, and transportation was secured for her. Those cases of gonorrhoea and syphilis found were quarantined in the City Hospital in a special ward. That this does a great deal of good cannot be denied. If this girl I spoke of had been taken into the City Hospital yesterday, it would undoubtedly have been the means of preventing her from spreading the infection. While this plan is said to have been a failure by some in Hamburg, Berlin, and Vienna, those of you who have lived abroad know that it is considered safer to have intercourse with a girl who has been examined than one who has not. It is but logical to assume that if these cases are kept in quarantine, it will decrease the percentage of cases of venereal disease, and I believe the statistics in Cincinnati while the above plan was in operation will prove the truth of this statement.

Carl Weidner, Sr.: The subject has been so thoroughly discussed that there is very little left to be said.

I shall speak to only one phase of the subject; namely the ethics that should govern the doctor in his relationship with his patients. It will be a long time before that question is settled in a satisfactory manner. The medical profession must uphold, to some extent, the sacredness of the relationship between doctor and patient; but, as Dr. Mathews has said, conditions have changed somewhat. There was a time when we observed secrecy with respect to tuberculosis, typhoid fever and other infectious diseases. We are now compelled by law to report these diseases to the health authorities. However, I believe it will be a long time before we are required to report venereal diseases.

Dr. Mathews' remarks reminded me of the story written about a Paris physician, who had a patient whom he was treating for syphilis or gonorrhoea, and who intended to marry the daughter of one of the physician's most intimate friends. He told the young man he could not marry, to which he replied that he would marry, and defied the physician to prevent it. The doc-

tor could think of no other means except to knock the man down on his way to church, which he did, thereby creating a scandal and preventing the marriage.

During the past year I treated a young girl during the active stage of syphilis, and a short time later I discovered her in one of our hospitals as a nurse. I consulted with my friends. What should I do? I did not like to expose this girl publicly. Finally one of my friends suggested that he would take care of the matter, and I presume the girl was discharged shortly after that because I did not see her at the hospital any more. I hope I did right. I would not like for any of my patients, medical or surgical, to be exposed to contamination by such a nurse.

I agree with Dr. Windell that prostitution cannot be prevented, but I do believe that we can do a great deal of good by educating the young. When is this education to begin? In some children it should begin earlier than in others, in proportion to their ability to understand.

The medical profession has a very important duty to perform. Let the preachers and school teachers do their part, but the most practical part of the work is bound to fall upon the medical profession. In the past three years I have had under my care six children, under six years of age, with gonorrhoea. In our practice in the homes we should endeavor to teach the fathers and mothers the danger of the transmission of these diseases by means of dirty towels and napkins, common wash-bowls, etc. Twenty-five per cent. of blindness is due to gonorrhoea. By teaching our patients the necessity of proper sanitary precautions, we can do a great deal to prevent the transmission of these diseases.

In regard to Dr. Lindenberger's case, I must say there is "something rotten in Denmark" when such cases as this cannot be taken care of somewhere as a measure of protection to the public.

Louis Frank: I have listened with much pleasure to this symposium and also to the discussion. It seems, however, that my own opinions in connection with certain phases of this subject are greatly at variance with those of the other speakers. There are two questions to be considered. One is the question of sex, which is inherent in the human being, is impossible of eradication, but may be repressed within limits, just as the appetite for food and drink may be repressed. The other is a medical question, pure and simple. That the two are so closely correlated that they cannot be separated, I do not believe. It has been shown that syphilis may be contracted in many ways other than by sexual intercourse. Possibly our attention had best be directed to a study of the medical side of the question. As to the education of the young, Dr. Solomon has expressed pretty nearly my own views. The sexual instinct is the strongest of any in the human being; perhaps even stronger than the instinct of

self-preservation. The strongest emotion of the human mind is probably that of fear. Every unlawful desire of the human race is controlled by the fear we have of the penalty for gratification of that desire. For instance, many men are deterred from killing another man solely because of the law on our statute books which fixes a heavy penalty for murder. In the same way, it appears to me that fear of the law might induce repression of the sexual instinct to a certain extent. But, will repression of the sexual instinct tend to eradicate syphilis and gonorrhoea? I must confess that I have been somewhat astounded by the statements of the dire results produced by gonorrhoea that have been made here tonight, insofar as the life and future usefulness of the individual are concerned. Personally, I am convinced that in gonorrhoea in the male, just as in the female, a stage is reached when the germs are no longer transmissible. Furthermore, we know that after a certain period of time, syphilis is not communicable. Let us be honest with ourselves. Recently a great furor has been raised, and the whole country is engaged in the discussion of eugenic and sociologic questions, I think it has gone a step too far and that it is time to put an end to it.

Jno. W. Price, Jr.: This subject appeals to me very strongly. One point which it appears to me should be emphasized more than any other, is prophylaxis. One way of teaching prophylaxis would be for the State to pass a law requiring every man contemplating marriage to secure a certificate of health from a physician. Of course this in itself would not prevent disease. It simply teaches the public to guard against it; it makes the prospective husband who has been so fortunate as to escape venereal disease up to the time he contemplates marriage, very careful to avoid contamination during the few months immediately preceding his marriage, because he knows he will have to pass an examination.

As to prostitution, it is an established thing and we must accept it. One means of avoiding the spread of syphilis and gonorrhoea through this source would be for the City to furnish each house of prostitution with an outfit similar to those used in the United States Army and Navy, containing argyrol, mercury, etc., with printed instructions as to their use, and require the girls to supply this to the men who visit the house. A great many men will neglect such precautions unless it is made easy for them. The records of the Army and Navy show that the percentage of cases of venereal disease has been greatly reduced under this method. Men visiting houses of prostitution would soon become acquainted with the contents of these packages, and would probably supply themselves with a similar package when contemplating clandestine intercourse.

CERVICAL LACERATIONS AND THEIR RELATIONS TO NERVOUS MANIFESTATIONS.

By C. C. ENGLISH, Louisville.

There was a time until comparatively recent that when the average physician or surgeon was consulted by a woman suffering with what was apparently a nervous exhaustion, that, if the woman had borne children, the first and almost only thought was, "Here is a case of neurasthenia from cervical laceration." A vaginal examination would reveal the fact that there did exist a cervical tear. Here the examination of the patient, and study of the case oftentimes would end. It was a case for surgical treatment, and the patient would be told that she must undergo an operation, otherwise she could have no hope for a recovery; that the operation was all that was necessary, and that it would give her complete relief. This was found not to be true in many cases; quite a few submitting to an operation were not benefited. They were not benefited because other important factors had not been sought and considered, and proper medicinal treatment instituted in conjunction with the operation.

To-day these cases are studied more carefully and handled more conservatively. But even now the profession is too prone to assume that when a woman has attacks of headache, backache, etc., that she must have some diseased condition of her pelvic organs as an underlying cause.

The presence of a cervical tear, of even a major degree, does not cause nervous manifestations in every instance; and there are so many conditions that produce symptoms that so closely assimilate the symptoms of neuroses from cervical laceration, such as astigmatism, obscure syphilis, beginning goitre, faulty elimination, autointoxication, etc.; that one has to be constantly on his guard. We should not too frequently arrive at conclusions—just because a woman has a cervical tear. We should be certain of our diagnosis; and even then slow to promise a cure by surgical measures alone. To illustrate this point let me cite two cases in my own experience, both of which had been promised recovery by operative interference.

Case I.—Mrs. M., age 34; married eight years; had had two children; first delivery by forceps; youngest child four years old. Complained of extreme nervousness, irritability, severe headache and backache, and unable to sleep until early morning. Vaginal examination revealed the existence of bilateral cervical laceration of moderate degree; uterus slightly sub-involuted, tubes and ovaries

slightly tender and a moderate degree of pelvic discomfort.

This seemed to me a case of neurasthenia induced by a cervical tear. Operation advised and cervical laceration repaired with perfect union; but patient was not relieved. Finally, growing suspicious of the sleeplessness in the early part of the night, I questioned her closely and found that her headache, backache, in fact all her symptoms exaggerated at night. I then made diagnosis of obscure syphilis, put her on mercury and iodode of potash. Her symptoms immediately subsided, she was completely relieved, and made a decided gain in weight. Operation probably not necessary.

Case II.—Mrs. R., widow, age 40. Had had three children, youngest child ten years old. Had had cervical laceration repaired with good union as a result, but without relief, four months previous to consulting me. Complained of insomnia, nervousness, headache, backache, bloating, numbness of limbs, palpation of heart or, as she put it, "sinking spells" in which she thought that she was going to die," frequently remained in bed most of the day. After careful and persistent questioning it was found that she was constipated; she ate too much nitrogenous food; the whole fluid intake in twenty-four hours was practically nil; her liver and kidneys were inactive; she was suffering from reabsorption of effete material. It was a case of autointoxication. Her mode of living was regulated; she was taught the necessity of keeping her liver and kidneys active, and given a good tonic. She made a complete recovery.

Others of you, I dare say, have had the same experience; and in the light of these experiences is it any wonder that so many refuse operation; wander into the realms of patent medicine and are benefited, or finally fall into the hands of some careful diagnosis and are promptly relieved.

There are a class of cases in which nervous disturbances will not be pronounced until after some acute sickness, then symptoms will appear and remain until relieved by trachelorrhaphy followed by constitutional treatment. We will often encounter a case with a rather severe cervical laceration of eight or ten years standing, who has had no nervous symptoms until very recently. This is very puzzling, but the torn cervix is often the prime cause of the nervous condition, and is explained by the fact that so long as a woman has prime health the cervical tear will cause nervous manifestations; but let her have an attack of typhoid fever, lagrippe, or have some worry or anxiety over family or financial affairs, or in fact anything that lowers her state of health, then the tear plays

a very important role in the production of symptoms. This should be explained to the patient for they often ask the question, "Why has the 'torn womb' caused me no trouble before?" In some cases, too, it is probable that the contraction of the cicatrix may become so great as to compress the nerve filaments and produce symptoms which in the earlier stage of the scar were not present. In these cases dense cicatricial tissue will be found filling up the angles of the tear.

In the more severe grades the diagnosis is comparatively easy. In these cases there exists a dull, heavy weight and dragging in the pelvis, oftentimes associated with a burning sensation in the vagina. Without any acute sickness as an assignable cause the general health is usually more or less bad. If the tear has set up an interstitial inflammation, accompanied by cystic degeneration in the cervix, then the reflex nervous phenomena are especially marked. Here the headache is almost constant, the patient is very nervous, emotional, and even hysterical.

In those cases also where the laceration is extensive, extending into and almost through the vaginal attachment, the reflex nervous disturbances are very pronounced. The irregularity of menstruation or its increase in duration and amount as a result of the subinvolution of the uterus, and chronic congestion, and perhaps inflammation of the endometrium is constantly wearing and and exhausting nervous energy. Neuralgia may occur in any part of the body, however, it is usually situated in the pelvis, extending to the groin and down the thigh. There may appear reflex nausea and vomiting, cataleptic convulsions, hysteria, the constant fear of some impending danger, numbness in the limbs, insomnia, irritability, constant headache, and backache, etc., in other words the woman is a confirmed neurasthenic.

In the treatment inexhaustible patience and careful study of the individual and careful study of the individual case is necessary. They have often, in search of relief, gone from one physician or surgeon to another. Too much or too quick relief is often promised, and in expecting too much they become dissatisfied. They should be told that they can be benefited and probably relieved, but that it will take time—probably several months.

Failure to obtain relief for the patient is often encountered because—as I stated in the beginning of this paper proper medical treatment is not instituted in conjunction with the operation. Rest and tonic treatment is necessary to improve the lowered vitality. Another very frequent cause of failure to obtain a good result lies in neglecting to carry

out local treatment for a sufficient length of time. If trachelorrhaphy is performed within a few months after the reception of the laceration—before sclerotic, cystic, and erosional changes have appeared—there is usually required but little preparatory treatment. When, however, there is a marked and widespread erosion, and the cervix is hard and sclerotic from inflammatory exudate, it is necessary to devote from two to six weeks to preparation of the cervix for operation. Many failures in the operation of trachelorrhaphy are due to neglect of such preparatory treatment. The hard cystic or eroded cervix may unite but imperfectly, if at all, after operation; or if good union is obtained, the sclerotic cystic condition of the cervix, and perhaps subinvolution of the uterus, will often persist, and symptoms continue as pronounced as before the operation.

Preparatory treatment consists in the administration of vaginal douches, regulation of the bowels by saline purgatives, and such local applications to the cervix uteri as are indicated in each individual case. The local treatment should be continued until there is no longer any leucorrhoea, and the erosion and cysts have disappeared. However, if the inflammatory changes secondary to the laceration have become so deeply seated that they do not show improvement after five or six weeks careful local treatment, it is not a case for trachelorrhaphy, but amputation of the cervix is necessary.

Often after local and constitutional treatment for five or six weeks the cervix will take on a much healthier appearance, and the general symptoms will be so much improved that the patient will sometimes want to defer the operation. This should not be countenanced as the symptoms will return with cessation of treatment, and the return of the patient to her multifarious duties; besides these are just the cases in which trachelorrhaphy gives most brilliant results.

DISCUSSION.

Jno. J. Moren: This excellent paper should not be permitted to go without discussion.

Nervousness is attributed to all sorts of conditions. We oftentimes have these patients tell us that some doctor said if they would have a baby they would get well, or if they would have the uterus removed they would get well, and frequently both are failures. I was very glad indeed to hear Dr. English take the position that these patients should have proper and exhaustive medical treatment before surgery is resorted to. My observation has been that, in many instances where operation does not produce results, the surgeon is apt to ascribe it to some malnutrition or nervous exhaustion that prevents the proper recovery of the patient. The longer I handle

these cases the more I believe in iron. If we would give Blaud's mass more frequently before operations, we would get better results from surgery.

Curran Pope: This paper is a most excellent one and the subject is timely at all times. I think it teaches us a paramount lesson, which is this: An essential, fundamental necessity before attempting to do anything, is to know what we are going to do. Then the presumption is that we know how to do it. Therefore, one cannot spend too much time, too much care, or too much thought upon his diagnosis. When he has gotten all of his factors together, when he knows, as far as it is possible to know, the secretory state of his patient, the condition of the urine, the blood and the blood serum, the gastric condition and wherever these may lead him, even though it leads to a careful conscientious X-ray examination of the entire gastro-intestinal tract—then, with all these facts, and his physical diagnosis lying before him, he should be able to establish the relationship that one thing found bears to another, and when all this is done he is certainly in a better position to pass upon the condition of his patient than he would be if they had been left undone. Many of these individuals, as the essayist has pointed out, are well in spite of a cervical laceration; their nervous systems are in such poise that they are able to carry the burden without difficulty. It is only when they begin to fall below par generally that local manifestations make their appearance. I maintain that the relation of the surgeon to the neuroses and the psycho-neuroses is this: Surgery when necessary, should be done—just as it should be done as a fundamental factor in any condition where it is necessary—but it should not be looked upon as a curative measure in any sense of the words. It is only one of a number of measures to be carried out in order to place the patient in the state that we call health.

The doctor's paper finds me in the midst of the collection of data for a paper on the end results of surgery in the neuroses and psycho-neuroses; therefore, it is a subject that is of great interest to me.

I would like to take exceptions to one statement in the doctor's most excellent paper. It is this: Hysteria is a psychosis. It is a dissociation of the personality. It is a common cause of ocular, uterine and cardiac conditions. But it is a psychic condition pure and simple—a psychic dissociation, that has a different psychic cause in each case. Therefore, every case is a law unto itself and can be best reached by modern psycho-analytic methods. This is the advanced teaching and thought of the day. We can very frequently tell whether a localized condition, such as a lacerated cervix, is causing symptoms by the following measures: Put the woman to bed for a few days and get her alimentary tract thorough-

ly cleaned out. Introduce into the vagina an electrode properly prepared. Place a large pad upon the abdomen and pass the galvanic current, in large doses, through the cervix, the negative pole being in the vagina. If we have to deal with symptoms that are reflected from the uterus, we will find that they become very pronounced in from four to six hours after the application. Of course the patient must not be told what is the object of the test.

Jno. K. Freeman: Those of us who do considerable obstetrical practice know that six out of every ten women who have borne babies have laceration of the cervix to some extent, but we also know what will cause symptoms in one woman may not in another. When a surgeon gets a case of this kind that has been through the hands of a general practitioner whom he knows has carefully analyzed it, and has perhaps been under the observation of a neurologist of note who has also carefully studied the case, and if, when the patient is put upon the table, the only abnormal condition that can be found is a lacerated cervix, then it is clearly the duty of the surgeon to insist upon the patient going to the hospital and having the laceration repaired. We must trust such men as have spoken here tonight. When they have studied the case thoroughly and have exhausted every measure other than surgery without relieving the patient, then it is our duty to correct whatever surgical condition may be found to exist.

It must be confessed that, unfortunately, in some of these cases, the surgical procedure is not followed up by careful and scientific medical treatment, as has been very beautifully brought out by Dr. English. I have always said that every surgeon should be a good doctor, and I am glad that the essayist has emphasized this fact.

F. T. Fort: It is this class of patients that gives the internist and the neurologist the greatest amount of trouble, and from which the Christian Scientist and the osteopath reap their harvest. I believe the failure to cure many of these patients is due, in part, to a lack of proper appreciation by the surgeon of the medical and neurological aspects of the case, as well as to an unwillingness on the part of the internist and the neurologist to recommend surgery for fear they may lose the patient. These are the cases in which the most hearty co-operation between the internist, the neurologist and the surgeon should be the rule. As Dr. English has brought out, these conditions may be due to toxemias of intestinal origin, to cervical tears, or to kidney or bladder dyscrasias, and we should endeavor to get at the bottom of the trouble in every case, whether it requires one examination or half a dozen. If we are unable to accomplish this single-handed, we should call in the other side of the house, as it were, and when the cause has finally been determined, whether it be surgical, medical or neurological, it should be corrected. If we will

get together in these cases trace out the cause of the trouble and correct it, we will be able to prevent many of these patients from going to osteopaths and Christian Scientists, as so many of them do.

Leo Bloch: I believe that statistics show that cancer of the uterus occurs most frequently in women who have borne children. Therefore, for this reason if no other, I think any appreciable tear in the cervix should be repaired.

C. W. Hibbitt: I have always been of the opinion that nervous manifestations in the presence of cervical laceration cannot always be attributed to the laceration itself, particularly when we consider what usually follows lacerations such as subinvolution, endometritis, or endocervicitis and retrodisplacements. These conditions I believe are responsible more frequently for the nervous manifestations following extensive lacerations than the laceration itself. While it is true that scar tissue developing in the torn area or angle may probably give rise in some degree to a nervous disturbance, still I do not believe we can attribute the amount of nervous disturbance seen in many of these cases to this plug of scar tissue. Many of these cases of slight laceration will get along very well without surgical interference. In cases where surgery is necessary, where the laceration is exhaustive, and where the cervix is sclerotic, or cystic degeneration has taken place, what can we hope to accomplish by repairing the cervix? Practically nothing. In such cases we must do an amputation of the cervix and in addition care for and relieve the other conditions which usually follow extensive laceration (as I have named above) in order to afford the patient relief from the nervous symptoms and effect a cure.

Simrall Anderson: I think the most brilliant results obtained in gynecological surgery have been from trachelorrhaphy; or, in cases where it is necessary, amputation of the cervix. A great many things are accomplished in doing this operation. In the first place it is usually preceded by a curettment. Again, when we do a trachelorrhaphy or an amputation of the cervix, we invariably have a shrinkage of the uterus. If there is a chronic endometritis, that is relieved. Subinvolution will take place, the uterus will shrink up away from the pelvis and the patient will be entirely relieved. In the presence of an uterus that is enlarged, with retroflexion or retroversion, if we will do a trachelorrhaphy, or if necessary amputation of the cervix, we will entirely relieve the condition and the bladder symptoms will disappear.

I wish to go on record as making the assertion that there is no operation in gynecological surgery that promises such brilliant results as trachelorrhaphy, or, where indicated, amputation of the cervix.

Fritz C. Askenstedt: I fully agree with Dr. Hibbitt in regard to the local irritation resulting

from scar tissue itself. It appears to me, viewing it from a pathological standpoint, that this can only occur to a minimum degree. After the tear is made, there is a formation of granulation tissue, which grows upon the muscular tissue bridging the gap, and forms scar tissue, but is not supplied with any nerves whatever. As there is no nervous tissue in this scar, there are no nerves to be impinged upon. It is true that, as it contracts, it does slightly compress the muscular tissue at its margin, but we know that the nerve ending subject to constant pressure atrophy and cease to functionate. I cannot conceive of any good reason why a scar of that kind should give rise to nervous symptoms. We are not familiar with anything of that kind elsewhere in the body, and why should it be true here? I am not now considering an interstitial inflammation.

I think that a great deal of the benefit that is attributed to trachelorrhaphy is in a large measure due to the curettment which precedes the operation, to the fact that the uterus is restored to its normal position, and to other work done upon the uterus itself. As far as the operation of trachelorrhaphy itself is concerned, I think it is greatly over-estimated.

C. C. English, (Closing): Referring to Dr. Askenstedt's remarks, it is in the rarest instances where we encounter a torn cervix with any great amount of cicatricial tissues, that we do not have marked sub-involution of the uterus, with a chronic inflammation in the tubes and ovaries, and by taking out the scar tissue we reduce the size of the uterus, relieve the weight and dragging in the pelvis, and also relieve the inflammation in the tubes and ovaries. It is probably not the tear itself that gives rise to nervous manifestations, but sub-involution of the uterus, and the inflammation of the ovaries and tubes as a result of the tear, and the scar tissue must be removed and the tear repaired before the pelvic organs will return to their normal condition.

Dermoid Cyst Interfering with Delivery.—In the case described the cyst was punctured and the contents withdrawn through a wide trocar after which the child was safely delivered. Three months later the cyst was removed by the vagina; it weighed then 100 gm. Analysis of the literature on the subject shows that removal by laparotomy of a cyst interfering with delivery has frequently entailed serious complications for mother or child or both, while vaginal removal is simple and harmless if preceded by puncture and evacuation of the contents of the cyst. This permits natural delivery and normal puerperium. The cases on record are summarized to show the advantage of this technic over the abdominal technic or colpotomy.

CLINICAL CASES

TABES DORSALIS.

(REPORT OF TWO CASES.)

By HARRY C. WEBER, Louisville.

February 21st of the present year case No. 1 appeared for consultation. Male, white, age 36 years, weight 150 pounds, married, occupation auditor. Until one year ago healthy, strong and athletic, weight 180 pounds. Contracted a case of syphilis ten years previous which gave him very little trouble. Took mercury and the iodides per mouth almost constantly for six years. Thinking he was completely cured, he married and during the next four years his wife gave birth to two healthy children who have remained so to date.

One year ago began this creeping disease, Tabes dorsalis or locomotor ataxia, with the following symptoms: Loss of knee jerks, incoordination of the muscles of locomotion, producing that peculiar ataxic gait. Eye symptoms not very pronounced. Lightning pains in different parts of the body. Romberg's sign or swaying of the body with the eyes closed. Bladder irritated at times, then sluggish and would not empty. Wasserman very positive.

I told him we had a new remedy I thought would benefit him and he related to me a great many disastrous results he had heard of "606" and would not submit to any physician injecting a quart of solution in his veins. I was not very anxious to give him an intravenous injection, so I explained the intramuscular method, and as I previously had some experience with eye cases and paralytics, I did not fear this method would injure him.

February 22nd, gave nine grains of salvarsan intramuscular, saturated solution of iodide of potash up to tolerance and 21 hypodermic injections of 1-6 grain each of the oxycyanate of mercury and 1-4 grain of the protoiodide per mouth, three times a day during the next month. March 24th gave another injection of "606" and the following month 21 mercurial injections, and 3 to 4 drops of Fowler's solution three times a day after meals.

During the first two weeks his locomotion was very much worse and the shooting pains very severe. I attributed most of the increased symptoms to soreness of the muscles produced by the salvarsan. At the end of two weeks case improved, and when I gave the second injection of "606" on March 24th, case again appeared worse for about ten days, then gradually improved until bladder symptoms disappeared and pains ceased in differ-

ent parts. Romberg's sign improved and the art of walking was returning and he was regaining confidence in himself. Left for his home in Illinois about the last of April.

I advised a month's rest from treatment then a Wasserman. Received a letter in June saying Wasserman slightly positive. "Am feeling so well, believe I could help the Louisville Base Ball Club win the pennant." I immediately advised another course of salvarsan and mercurial treatment, but heard nothing more of the case.

Case No. 2., was just the opposite in many respects. Male, age 40 years, weight 130 pounds, single, occupation lawyer. No desire for athletics. Very anaemic and drank more or less all the time. Specific fifteen years, had but little treatment. Slight symptoms of locomotor ataxia for eight years. Last two years all of the symptoms of case No. 1 very pronounced. Would not venture on the street without an escort for fear of running into some one or falling through a plate glass window. Would not leave the house on a rainy day thinking he could not walk on wet pavements.

May 18th to June 2nd a mercurial injection was given each day and the iodides to physiological effect. June 2nd I gave him an intramuscular injection of "606" which was accompanied by no local pain or soreness whatever. Two weeks of the mercurial injections and the iodides per mouth, then two weeks of Fowler's solution as a tonic and on July 1st, a blood test was positive. July 8th, "606", no pain or soreness. This was followed by intramuscular injections of mercury to July 25th, then another injection of salvarsan and a month of liquor potassii arsenitis.

July 25th case appeared slightly improved when he left for his home in a neighboring town. On October 8th patient came to my office unassisted, had gained 12 pounds and could walk along a crowded street with confidence.

DISCUSSION.

Geo. H. Day: It is in this class of cases that we are oftentimes at a loss what to do? We see many patients who have been well treated, so far as anti-syphilitic measures are concerned, who suddenly develop these cerebral conditions, which is very discouraging to the practitioner.

Swith has recently advanced some new ideas in regard to the treatment of these conditions which have met with considerable success in his hands, and which I believe hold out more hope for these patients than anything we have yet tried. It consists in giving an intravenous injection of salvarsan, and one hour later 40 c.c. of blood is withdrawn, allowed to coagulate and centrifugalized. The following day, 12 c.c. of serum is pipetted off, diluted with 18 c.c. of normal saline

solution, and heated for half an hour at 56 degrees C. A sufficient quantity of the cerebrospinal fluid is then withdrawn, and the diluted blood serum introduced into the spinal cord. Swith has reported a number of cases in which this has been carried out and, while he has not followed them up a sufficient length of time to enable him to draw any definite conclusions, he believes that his method will prove to be of great benefit to these patients.

I do not believe we should rely upon the Wasserman test for the diagnosis of this condition. We would get better results by establishing the diagnosis from the spinal fluid itself, and then carrying out the treatment recommended by Swith.

Jno. J. Moren: I have had an opportunity of seeing two or three cases treated by the method of Swith, and in each instance the patient showed very marked physical improvement, but the knee-jerk, Argyle-Robinson pupil and headache persisted. These symptoms will resist in spite of all the mercury, "606", or iodide that we may give. Personally, I have been able to secure better results by building up the physical condition of these patients, then putting them on the Franklin exercises, which is really a system of re-education, teaching them to use their legs although a number of the essential fibres are gone; "driving the horse without the bridle" so to speak.

Curran Pope: The tendency of the modern neurologist is to get away from the designation "locomotor ataxia," which merely describes one of the symptoms, and to use the older term *tabes dorsalis*, which embraces a wider symptom complex.

I believe there are always two factors in the production of *tabes dorsalis*; one syphilitic and the other nutritional. The former is to be combated with arsenical or mercurial preparations. Personally, I have more faith in mercury than in arsenic. However, I do not believe permanently good results are ever obtained in these cases by medication *per orem*; hypodermic injection is the method of choice. To-day the consensus of opinion among the French and German neurologists, as well as the majority of those in this country, is that iodide of potash, nor any iodide, has ever done a particle of good in *tabes dorsalis*, but, on the contrary, has done an immense amount of harm. I never use iodides in the treatment of syphilitic conditions, and it is with great pleasure that I again refer to the fact that, in 1896, I clinically took the stand that the iodides are injurious in locomotor ataxia and should never be used. Personally I have not used them since 1894.

I always tell these patients that they should have recurring courses of treatment. It makes no difference whether the patient considers himself sick or well; he should be treated every year of his life until he is put in the grave. This is a

safe plan, and in my opinion, if it was carried out more frequently, we would have fewer so-called para-syphilitics which, as we know, is nothing more than another manifestation of syphilis.

Dr. Weber pointed out the fact that the mild cases exhibit very few symptoms. It has been my experience that the mild cases are the most treacherous ones and the most likely to be followed by nerve involvement. We are dealing, not with a meta-syphilitic or a para-syphilitic condition, but with a straight syphilitic trouble in which, as has been demonstrated by Noguchi and others, the specific micro-organism of syphilis is present.

H. C. Weber, (Closing): I have been treating syphilis for fifteen years, and have always depended upon mercury up to the time that salvarsan was introduced. We have never considered that the iodides were curative and only gave them in cases where there was pain. After beginning the use of salvarsan, it appeared to me to have a better effect when given in conjunction with iodide, and also when the patient was thoroughly saturated with mercury. I am inclined to believe that we have secured a specific in the two drugs combined.

SARCOMA OF THE UNDESCENDED TESTICLE.

By C. B. SPALDING, Louisville.

Mr. C. L., white, age 22, was referred to me by Dr. Katzmann, for examination, on the 25th of October, 1911.

The family history shows that, on the paternal side there were four brothers and sisters; a sister, and the mother died of supposed cancer, also one of the father's brothers died of cancer. The maternal side shows that the parents, maternal grandfather and two of his brothers died of tuberculosis. The patient has one sister and one brother, both well and healthy.

The personal history shows, that the parent had diphtheria twice, measles, chicken pox, typhoid fever, and was a frequent sufferer from abscesses in the ears from the age of six months to fourteen years. His feet have been deformed since he was three years old.

Patient has had several attacks of appendicitis during the past two years. For one year, undescended testicle on the left side, had given some pain, but for three weeks previous to examination the testicle had enlarged rapidly and was very tender and painful.

We advised the mother of our suspicions of a malignancy and the probable outcome.

On October 25th, 1911, the appendix was removed and then the testicle. There was no perceptible infiltration about the adjacent structures, and the recovery was uneventful, and rapid. A pathological examination of

the testicle, by Dr. Baldauf, of the University, showed a few suspicious looking cells, but nothing definite enough to make a positive diagnosis of sarcoma. The family was warned, and urged to report to Dr. Katzmann at the first sign of any recurrence.

On the first day of June, 1912, Dr. Katzmann again returned the patient to me. A mass, the size of an egg, and resembling the former testicle in size and location, had appeared. This mass seemed not only adherent to the skin but fixed at its base. On June 3, 1912, this mass and the underlying fascia and inguinal glands were removed. The wound healed very nicely, except for an abscess appearing below Poupart's ligament, after he went home, which Dr. Katzmann opened and treated.

The specimen was submitted to Dr. Baldauf and he reported positively a mixed spindle and small round cell sarcoma.

The mother was informed of the probabilities of an early recurrence, and the ultimate outcome. It has now been over two years since the first operation, and one year and about six months since the last operation, and there is no evidence of any recurrence. The patient has gained greatly in weight and general health, and seems absolutely well. I report this case, because of the frequency of malignancy in the undescended testicle, and the rarity of a final cure.

DISCUSSION.

Jno. W. Price, Jr.: I am glad to have heard Dr. Spalding's excellent report. I think the fact that this patient had been wearing a truss for some time was a factor in the production of the malignant growth.

The result of the operation is very favorable for an ultimate cure, but sad experience has taught me not to consider such a case out of the woods until several years have elapsed.

E. S. Allen: Tumors of the testicle are most interesting from an embryological standpoint. We know that in these structures we have the remains of the Wolffian body, and that frequently as is true in many instances of embryonic remains, they are on the border line of development, so to speak, and it does not take much irritation to start their growth. Although in Dr. Spalding's case the tumor is a sarcoma, and sarcomata, as a rule develop in the body of the testes or in the connective tissue proper, still it has not been definitely settled whether the Wolffian body is of isodermic or mesodermic origin; some authorities claim that it is both, and that any kind of a tumor may develop here. Embryonic tissue being present in greater or less quantity, irritation of any kind may stimulate the nutrition of these cells, and we know that embryonic remains once stimulated and started to growing, soon get beyond the control of the govern-

mental force that directs development, and the growth reverts back to the embryonic type. The more rapidly it grows, the further it reverts back to the embryonic type and the more malignant it becomes. The fact that this patient had an undescended testicle indicates a lack of developmental capacity, and the truss he wore probably irritated the embryonic remains and started their growth.

I think Dr. Spalding was very wise in warning the parents of this patient not to be too hopeful, because it has been the experience of the most operators that, in cases of this kind, there is usually very rapid and extensive metastasis. However, in view of the time that has elapsed since the second operation, I think Dr. Spalding is justified in feeling a little more hopeful about the case.

W. C. Dugan: The lesson to be learned from this report is that we should endeavor to do more work in the way of replacing these undescended testicles in the scrotum before they undergo atrophy and other changes which lead to the formation of tumors. I do not believe there is any doubt that the proportion of tumors in the undescended testicle is much greater than in the normally located testicle. Those cases in which the testicle is in the canal are the ones in which sarcomata develop—not the testicle that is suprapitoneally located. In the latter cases we rarely see a malignant growth. Some authority in London, whose name I do not recall, just now, has done a great deal of work along this line, and he has found that, when the case is seen early and the testicle placed in the scrotum, it develops in a normal manner. Therefore, I think we should encourage operation for placing the testicle in its normal location before the development of such conditions as existed in Dr. Spalding's case.

J. Hunter Peak: I have had the good (or bad) fortune to have seen quite a number of cases of undescended testicle before any tumor had developed. In some instances I have tried to place the testicle in its normal location, and it was certainly one of the hardest jobs I have ever tackled. Sometimes it cannot be done, and in such cases I usually advise the family that the testicle should be removed. I have seen cases in which one testicle was in the canal and the other in the abdomen, and in such cases the question arises: should we deal with both of them at the same time? This is a question that the patient should decide for himself. Some prefer not to disturb the one in the abdomen, because it does not run so much risk of injury. However, it is more or less liable to growths, particularly malignant growths.

Wearing a truss is not the only source of irritation in these cases. By reason of its location, the testicle is liable to be injured by falls, and other accidents incident to the life of the average man, and such injuries are frequently followed by the development of a malignant growth. For

this reason these patients should be carefully watched and the testicle removed whenever a growth develops whether it is malignant or not.

C. B. Spalding, (Closing): I wish to thank the gentlemen for their discussion. In regard to the source of irritation in undescended testicle, I think this condition is always accompanied by a partial hernia, and the hernial contents slipping in and out of the sac is a constant source of irritation. In the few cases in which I have placed the testicle in its normal location there has been no subsequent trouble. One factor that tends to make this operation a difficult one is the fact that the blood supply comes from the outer side, along the brim of the ilium, instead of in the median line, and in pulling the testicle down we are apt to injure this blood supply. However, in the majority of cases it can be accomplished without any great difficulty.

MEDICAL PROGRESS

PELLAGRA.

(REPORT OF CASE.)

By I. A. ARNOLD, Louisville.

Mrs. M., widow, forty-six years of age, mother of three children; has had all the diseases relative to childhood, a blonde and of slender build; hygienic surroundings fairly good. She had good health until about six years ago, when at the birth of her youngest child she said she was sick five or six months; just following the birth of her child she had convulsions which from her history were probably uremic. She gradually improved but not up to former standard of health. About November 1st, 1912, she began to be very nervous, she had considerable trouble with her stomach, constipated, kidneys acting freely, and symptoms rapidly becoming worse when her family called me to see her on January 1st, 1913, they were apprehensive of her losing her mind. I found her in a very weakened condition, mind weak, not particularly off on any one subject, but more like a child's mind easily moved either to tears or laughter. She was unable to walk—general tremor on one occasion. I noticed that she cried because she was unable to hold a glass of water. She complained of a peculiar disagreeable odor which she was unable to intelligently describe. Vision and hearing poor, reflexes exaggerated—complained of a burning in nose and throat, also extreme pain in chest, arms and back; also complained of a burning on the surface of the fore-arms to such a degree, that made it necessary to use an opiate to relieve her. She was nauseated and unable to eat, and complained of being unable to breathe good at night. She was much emaciated.

Upon examination I found the heart rapid and weak, the tongue red, in fact, the entire buccal cavity fiery red; a slight rise in temperature, also an macular eruption on the fore-arms of a bright red hue, the spots about 1-4 to 1-2 inch in diameter, resembling sun-burn.

The symptoms above described gradually became worse until about March, 1913, when her condition seemed so intensified that there were grave fears of her death. The emaciation was extreme, equal to that we see in the third stage of tuberculosis. She was unable to sit up in bed, neither could she sleep for the severe pain and burning sensation of the skin.

Menstruation, which had been coming on every three weeks, ceased, but returned July 1st, 1913, but not much stress can be put on this symptom because of her age. March 1st, 1913, her mind gave signs of great mental weakening. The eruption which was confined to the dorsal surfaces of the hands, the feet, and the back of the neck and shoulders, began to spread over the arms, the face, particularly over the nose and forehead and continued until the entire body, except the abdomen, was more or less covered. The temperature, which at first showed a slight rise, became subnormal and remained so to this date. Pulse got faster and weaker, running to about 130 or 140. Examination of urine at first showed slight trace of albumen, but after two weeks there was no trace of any. She remained in this condition until about April 1st, when she began to improve gradually, being able to retain some nourishment. Constipation was relieved by drugs, and at this date she is able to walk a distance of four or five blocks. How long she will thus continue I am unable to say, but it is my opinion that it is only temporary relief.

I have not given the family my opinion of the case, but I am about convinced that it is a case of pellagra.

DISCUSSION.

W. E. Gardner: From the description of this case I think it was undoubtedly one of pellagra. The skin lesion described is very characteristic of the disease. The symmetrical dermatitis on the backs of both hands is not easily mistaken for any other condition by one who has seen many of these cases. I would like for the doctor to tell us, in closing, whether this patient gave a history of mental or nervous disturbance during the year or two prior to the appearance of the local symptoms.

I. A. Arnold: Yes, sir; this patient gave such a history.

W. E. Gardner: From a study of these cases during the past two or three years, I am very much inclined to believe that the appearance of the dermatitis indicates the approach of the end of the disease, which may have existed for

some two or three years prior to this time. When we recall a muscular weakness, loss of flesh, gastric discomfort and a certain amount of mental hebetude or confusion, that have existed for a year or two previous to the appearance of the dermatitis I believe the dermatitis is due to certain trophic changes which take place in the skin, due to a general lack of nutrition, and that this, along with the intestinal symptoms, are the sequelae of more serious structural changes which may have been going on in the brain and cord for months or years before the local manifestations become apparent.

Curran Pope: I have seen very little of pellagra and possibly I care to see even less. Among the most hopeful signs of professional activity along this line is a recent article by Niles, in which he reviews some of his experiences in the treatment of pellagra, and particularly the almost wonderful benefit he has obtained from the use of hydrotherapy. He has given these cases quite extensive courses of treatment and in his latest report, which he sent me about a month ago, he holds out promise of a great deal of relief to be obtained from hydrotherapy, with the possibility of a cure in some early cases of pellagra. I was interested in the report from a purely academic standpoint, and not from the standpoint of treating these cases myself. Undoubtedly, however, the great value of hydrotherapy in overcoming vasomotor and trophic conditions would certainly indicate its use in this particular class of cases. I think this report indicates a decided progression in the study of pellagra.

A. J. Davidson: The essayist stated that his patient had no temperature. In the cases I have seen where there was temperature, we have hardly given any treatment at all; that is, for the temperature alone. As to the secretions, they are always very plentiful.

As to the urine, we do not find anything characteristic. Almost all of these cases, no matter what we do for them, will die, and I do not know whether hydrotherapy or anything else is going to help them very much. In three cases that I have seen in the past nine months, the alum baths recommended by Niles, have been used.

One of the speakers referred to the probability of the mental condition having existed for several months prior to the manifestation of the local symptoms in nearly all asylum cases, as well as those reported outside of asylums, there is a history of these symptoms, as well as some mental aberration.

The symptoms enumerated by the essayist have been present in nearly all the cases I have seen. The dermatitis is very similar to pustular eczema; in some cases the skin sloughs off in large masses. In most cases it appears first on the palmar and dorsal surfaces, appearing later on the lips, back and neck; sometimes on the feet, but not often.

As to the mental condition, there is usually ir-

ritability with a tendency to complain, but the patient does not seem to appreciate the gravity of the situation; there is little inclination to exertion of any sort.

Some persons have undoubtedly had pellagra and either recovered from it, or there has been a remission period of over a year and a half. I know some cases that have presented all of these symptoms that we are accustomed to ascribe to pellagra, but have recovered from them and are still alive. I know of at least two such instances.

Bernard J. O'Connor: I believe one of the most interesting points has been overlooked by the reporter; that is, the etiology of pellagra: I would be glad if he would tell us the previous residence of this patient, and also the probable cause of the disease.

Curran Pope: I would like to correct a misapprehension which may arise in connection with my remarks and those of the speaker who followed me. My remarks concerning the work of Dr. Niles did not refer to mineral baths, but rather to ordinary hydrotherapy. In the article I mentioned he does not refer to the alum baths, which I understand has practically been discarded.

I. A. Arnold, (Closing): In answer to Dr. O'Connor's question, I will say that I intended to write to Dr. Carpenter, who treated this patient in Winchester, regarding the surroundings of the patient there, but from what she has told me they must have been very similar to the conditions here. Her present environments are fairly good. She lives in a cottage in the west end of the city. She said that Dr. Carpenter reported her case to a medical society once before, but whether it was the same condition or not, I do not know.

I had never seen a case of pellagra until this patient came under my observation, and I simply treated her along the line of general tonics, giving her plenty of such foods as lettuce, greens, etc. For the constipation of the bowels I gave her cascara. For a while I did not know what I was treating, except that it was something I had never seen before, until finally I made the diagnosis of pellagra.

Constipation.—Treatment—Stubborn constipation in infants is relieved by giving 1 dram (4 c.c.) of olive oil once or twice daily. Constipation in neurasthenics is also benefitted.—Bram.

Carcinoma, Esophageal.—Treatment. — Hydrogen dioxide, 1 dessertspoonful of 1 to 3 per cent. solution every hour, found to be valuable palliative measure where stenosis apparently complete. Within twenty-four hours stenosis is overcome, and later purees and even solid food can be swallowed. Subjective symptoms disappear and patients gain in weight. Measure of little use, however, in scirrhus form of cancer.—Fradiss.

DEPARTMENT OF GENERAL MEDICINE.

By J. ROWAN MORRISON and J. ALLEN KIRK,
Louisville.

I.

THE SENSIBILITY OF THE ALIMENTARY CANAL IN HEALTH AND DISEASE.

Hertz, *Lancet*, 1911, in the Goulstonian lectures, records his observations on the sensibility of the gastro-intestinal tract to various stimuli. The mucous membrane of the whole canal was found insensitive to tactile stimuli: insensitive to thermal, the esophagus and rectum being sensitive. The esophagus and stomach are quite insensitive to dilute hydrochloric acid even as high as 5 per cent, a concentration never found in health or disease. Glycerin effects the anal canal and alcohol generally produces a feeling of warmth. The feeling of fullness in stomach and intestines is due to a slow increase in the tension exerted on the muscular fibres of their coat. The volume of contents necessary to produce this tension varies with the tone of the organ, that is a small quantity will cause a sensation of fullness in a tonically or organically contracted stomach, while it would be unnoticed in the dilated.

In the rectum this special sensation of fullness is a call to defecation. This call should be answered at once; for the passing off of the desire is not due to a return of the feces to the pelvic colon, but to a gradual relaxation of the rectal wall. A new desire means only one thing—that more feces have come to the rectum and to prevent progressive dilatation it should be evacuated at once. The feeling of hunger is one of general malaise associated with the periodical muscular activity of the stomach when empty and the nerves hypersensitive. This causes local pressure symptoms analagous to those to be described in pain. Hunger can be allayed by the taking of water or of any non digestible substance like earth. It is, however, with especial reference to abdominal pain that his observations are most interesting. He has described how he found the stomach insensitive to hydrochloric acid, even when ulcerated, and believes that abdominal pain, is, in part, truly visceral and has one cause—tension produced upon the muscular coat of the viscus. This tension must be induced rapidly; if slowly the sensation of fulness results, and the pain returns when more pressure is added. Gastric pain associated with ulcer he describes as due to the pressure caused by (1) pyloric spasm either organic or due to the passage of too acid chyme into the duodenum, together with (2) increased peristalsis of the pyloric

end of the stomach. This rapidly raises pressure locally, and the pain is severe. The peristalsis may be more active from direct stimulation of their nerves of the open ulcer, or it may be due to plain hyperacidity. If the ulcer is in the cardia the peristalsis is evidently greatly increased, reaching a region of the stomach where it normally does not belong. The late pain of duodenal ulceration he explains by the fact that the first chyme to pass the pylorus has hydrochloric acid bound with the protein, and that there is no excess to cause pyloric spasm. As the secretion of hydrochloric acid arises, the spasm increases and peristalsis causes the increase in pressure. Relief by soda bicarbonate is explained by the reduction of acidity and consequently of the pyloric spasm, thus permitting extension of chyme. Similarly, vomiting results in emptying the stomach with lack of pressure owing to their being nothing for the stomach to contract upon. The pain of chronic appendicitis and cholelithiasis is most probably due to reflex inhibition of the pyloric relaxation. That of colic is due to increase of pressure caused by excessive peristalsis and spasm of the next lowest colonic segment. Local tenderness may be due to two things—hyperalgesia of the skin, subcutaneous tissues and muscles, together with a local rise in tension, caused by the pressure of the hand. That it is not due to pressure on the ulcer is evident from the fact that exploratory laparotomies often show the ulcer remote from the tender spot.

J. A. K.

II.

INFLUENCE OF THE DIET ON THE RESISTING POWER OF INFECTIONS.

In the *Medicine Clinic*, Berlin, 1913, Czerney's article is another illustration of the way in which practical experience leads the way and science follows along possibly far behind, with the explanation of phenomena observed. With the explanation in hand he says we can now go systematically to work to protect children against infections, when before it was a matter of haphazard empiricism. He shows how important is the natural immunity possessed by the individual in respect to infection, and how it is possible to enhance or reduce this by the diet. The natural immunity of the human organism is its most precious possession, he declares, and it is one of the highest tasks of the medical profession to protect and cultivate further this natural immunity. Conditions in this respect are most easily studied in infants. A healthy infant does not develop thrush even if its mouth is inoculated with oidium, but if digestive disturbances arise, the oidium starts up the

thrush at once. Let the digestive disturbance be corrected and the thrush subsides without any local measures. As the infant grows older, the natural immunity increases and the oidium does not induce thrush except in debilitated children. The saying that "the food is responsible for the infants being sick but that it dies from infection" must be modified. Czerny insists, by the additional statement that this occurs only with a constitutional inferiority, and that the latter is a factor in the development of the infection by its depressing influence on the natural immunity. He discusses the different elements of the food in relation to natural immunity, the fat, carbohydrates, etc., and emphasizes that the water content of the body has extreme importance for natural immunity. Bacteria flourished in culture mediums more luxuriantly in direct proportion to the measure in which the water content of the medium surpasses the average water content of the body of an adult.

With a water content merely equal to this average or below, no colonies of the bacteria develop. The higher the water content of the body, the less the resisting power to infection, he reiterates.

Carbohydrates in the diet tend to increase the water content of the tissues; the amount of increase depends on individual conditions, so that some infants and older children have to have the intake of carbohydrates more strictly regulated than others. The embryo and new-born infant have a larger water content than older children and adults, and the experiences with those illustrate forcibly the special danger of this high water content. They not only contract infections with exceptional facility, but the infection rapidly spreads from a local to a generalized process.

Tubercle bacilli in young infants almost invariably a generalized active disease while infection as the child grows older is usually a local process.

Another factor of importance for natural immunity is the swelling of the colloid substances in the tissues: under normal conditions the calcium salts have an inhibiting and regulating influence on this swelling. If the absorption of the calcium salts from the food is prevented by too much fat in the food, then they are thrown off in the form of soaps in the stools and the infant suffers from the lack of necessary calcium salts. This is most liable to occur on a cow's milk diet, both in infants and in older children fed too long on milk. The loss of the alkalies in this way leads to acid intoxication, the more readily the younger the child. The natural immunity is lower on a cow's milk diet than on any other food.

With the exudative diathesis, in particular,

the exceptionally low natural immunity can be enhanced to a practically normal phase by simply modifying the diet, reducing milk after the first year of life to the proportion of milk usually taken by adults. His twenty years' study of the subject has shown that it is possible to control the exudative diathesis effectually by a proper diet, and thus to control the tendency to infection, so that the children very rarely contract scarlet fever, and when it occurs it is in an alternated form. He even affirms that the frequency of the occurrence of scarlet fever and the seriousness of the disease are generally speaking, a mirror to reflect the condition as to the suitable or unsuitable diet given children.

The exudative diathesis, he reiterates, is a sharply defined condition of certain exudative and consecutive infectious processes in the skin and mucous membrane, which are directly dependent on the diet and can be controlled at will by modifying the food, reducing the intake of milk and of fluids in general to the amounts generally taken by adults, and giving the children in their diet certain substances which they need. Experience has shown that these latter substances can be supplied to infants in maltose and to older children in meat. The recent research on beriberi has demonstrated that even minimal amounts of certain substances in the food have a wonderful effect on the general health. In conclusion Czerny urges that some of the research now being devoted to active and passive immunization should be diverted to study of the factors governing natural immunity, especially the alimentary factors.

J. A. K.

The Treatment of Syphilitic Affections of the Central Nervous System with Especial Reference to the Use of Intraspinous Injections.—Swith and Ellis, (Archives of Internal Medicine, Sept. 15, 1913.)

They report their work done at the Hospital of the Rockefeller Institute for Medical Research.

Syphilis of the central nervous system is caused by a known parasite—the treponema pallidum—against which we have at least two specific therapeutic agents. It is therefore amenable to treatment. In the first place it is necessary to recognize the nature of the disease in the nervous system before irreparable damage has been done to important structures and, secondly, to determine the most efficient method of application of the curative agents.

It has been demonstrated that in parasymphilitic diseases there is an active syphilis of the nervous system. The cerebrospinal fluid shows an increased globulin content, and pleocytosis, increased cell content; these indicate

a chronic inflammatory process in the cerebrospinal axis and a positive Wasserman in the cerebrospinal fluid indicates its syphilitic nature. In late syphilis and tabes the spirochetes have established themselves in the lymph spaces of the central nervous system and are difficult to reach with drugs given in the ordinary manner, as there is very little excretion of drugs from the blood into the cerebrospinal fluid. Flexner has shown that it is necessary to inject the antimeningococcal serum into the subarachnoid space to have a curative effect.

Mercury and iodides have very slight effect on the abnormal constituents of the spinal fluid. Salvarsan intravenously has more effect, but does not cause the globulin to disappear or change the positive Wasserman in the fluid.

Salvarsan and neosalvarsan, when injected intraspinaly produce symptoms too severe to permit of their use in this manner, however, serum can be injected repeatedly without apparent injury to the nervous tissue. The authors have used serum from the patient after the administration an hour previously of from 0.2 to 0.5 gr. salvarsan.

Their method which they give in detail is practically as follows:

One hour after the intravenous injection of salvarsan 40 c.c. of blood is withdrawn directly into bottle-shaped centrifuge tubes and allowed to coagulate, after which it is centrifugalized. The following day 12 c.c. of serum is pipetted off and diluted with 18 c.c. of normal saline. This 40 per cent. serum is then heated at 56 C. for one-half hour. After lumbar puncture the cerebrospinal fluid is withdrawn until the pressure is reduced to 30 mm. cerebrospinal fluid pressure. The diluted serum is then introduced by gravity in order not to suddenly increase the intraspinal pressure. Frequently there is a certain amount of pain in the legs commencing a few hours after the injection.

Ten cases are reported where this treatment was given, and the result shown in tables—giving the treatment, the Wassermann reaction in the blood and a quantitative Wassermann for the cerebrospinal fluid, the cell count and globulin in the fluid.

Eight were cases of tabes dorsalis the other two of different types of cerebrospinal syphilis. These cases all showed improvement with disappearance of pain and arrest of the progress of the disease. In several of them the improvement had lasted for over a year. In two cases the serum was taken from other persons to whom salvarsan had been given.

The number of injections given vary from 5 to 15 with an average of 9. The interval between injections being from a week to several weeks or a month.

The cases reported are examples of groups of cases they have had under treatment.

These observers point out that the successful treatment of syphilis of the central nervous system is not two or four or any number of injections of salvarsan or certain amounts of mercury or iodides, but only when the spinal fluid has become normal are we justified in discontinuing treatment.

They do not offer the intraspinal injection as a substitute for other accepted forms of treatment, but as an aid in attacking severe cases as a rapidly advancing tabes or paresis.

This interesting work appears to offer some hope at least in those cases of parasyphilis—all too common, and by the ordinary methods practically hopeless to treatment. However, these are severe measures, and should not be undertaken except by those having at hand opportunity for careful observations of the changes occurring in the cerebrospinal fluid. That this is not a task for a tyro one can see by looking over the charts presented with their article.

J. R. M.

IV.

In these days of delving into the very minutiae of things with high hopes for even ultra microscopic views, it seems rather unique, but altogether wholesome that quite a few prominent observers have hearkened back and shown the necessity of the study of anatomy in its relation to some of the more complex diseases.

Dr. Charles F. Painter in an article entitled the "Influence of Skeletal Defects, Congenital and Acquired, Upon the Body in Health and Disease, (*American Journal of the Medical Sciences*, October, 1913), discusses this subject in a very interesting manner. Commenting on the valuable work done in this line by Lane, Goldthwait, Preiser and F. H. Martin.

It is becoming more and more apparent that many disease processes cannot be attributed to infection, so earnest search has been made by many for their real origin, and much valuable information has been found by these observers to be in skeletal defects, frequently congenital.

Many defects are attributed to the human animal having to walk on two feet instead of four as his ancient ancestors did. There can be no doubt that much strain has been put on certain parts of the body by assuming the upright position, and that in many instances the skeleton has not been able to meet this with absolute success.

Painter says, "We are disposed to assume that the body is so endowed with energy and is so infinitely adaptable to changing conditions that its functions may be continued in

a normal manner to permit of healthful existence and the output of a volume of energy proportioned to the capacity of the machine. It is true that in the human mechanism there is a wider latitude than there is in any other known mechanism for loss of force and for the performance of function under conditions which are, to say the least, adverse. What we do not realize, and have taken few steps to understand, is (1) to what extent anatomic defect influences the proper functional uses of the body; (2) to what degree and in what way these anatomic peculiarities may influence physiologic function; (3) to what kind of abnormal anatomic changes these perversions of function may give rise."

Probably the earliest part of the medical profession to recognize this effect of strain was the ophthalmologist—by correcting unbalanced eye muscles and relieving eye strain many headaches and general nervous disorders were overcome.

Many valuable lessons are to be found in the relief offered the general health and well being of individuals by recognizing and correcting weak and pronated feet and flat foot. We also owe much to orthopedic surgeons, especially Goldthwait for directing attention to the fact that many cases of sciatica, lumbago, etc, were strains and displacements of the vertebra and sacro-iliac joints and therefore amenable to treatment by relieving the true cause.

For the past few years, universal interest has been manifested in visceral ptosis and its resultant alimentary toxemia. Following the brilliant work of Arbuthnot Lane on this subject, showing its anatomical origin and that it was frequently congenital, many most valuable papers have been written on this subject especially those of F. H. Martin of Chicago, Coffey of Seattle, and Richard R. Smith of Grand Rapids.

Most of these men are surgeons and too many of us are prone to think that the only relief offered in this condition is by surgery—this one would believe to be the case from the writings of some of these gentlemen, but no doubt this extreme view is moderating a great deal, as Coffey says in his article (*Surgery, Gynecology and Obstetrics*, Vol. XV, 1912-) that most of these cases can be relieved without operation and are amenable to treatment by diet, fattening, exercise and general regulation of the patient's habits.

It therefore appears that these cases of skeletal defect and resultant strain should be of much interest to medical men in general, not only to surgeons and specialists for the general practitioner sees these cases first and if he train himself to be able to detect these defects he will not lose valuable time in trying every sensible means of overcoming them as

early as possible and one can see the great advantage to be gained in these conditions in beginning in youth.

Painter says, "These problems comprise much of the work that those who are becoming interested in chronic medicine have lain out for themselves. A new and attractive field for investigation exists. Light is being shed upon many questions which have puzzled all branches of the profession of medicine. The need for a correlation of the knowledge which has been accumulated through the activities of workers in various special lines of research is becoming more and more evident. We are getting past the period when within the narrow limits of our particular spheres of activity we can assume a position of authority and say that this or that ailment can be treated properly only by this or that specialist. It can be properly treated only by the one who has the best conception of the anatomic-physiologic relations of the condition before him, and is broad enough to act on that knowledge. A better conception of the functional anatomic relations of the human being, not merely the ability to recognize and call by name its structural components, is what is necessary in medicine and surgery. When the profession recognizes this and bases its treatment upon such knowledge, some at least of our present-day problems are certain to become easier of solution, and mankind at large will be the gainer. J. R. M.

MINUTES OF ANNUAL MEETING OF THE JEFFERSON COUNTY MEDICAL SOCIETY, DECEMBER 22ND, 1913.

The 235th Stated Meeting (Annual Business Meeting) of the Jefferson County Medical Society was called to order by the President, Dr. Dunning S. Wilson, on Monday evening, December 22nd, 1913.

Minutes of the previous meeting were read and approved.

UNFINISHED BUSINESS.

Dr. Doherty, Charman of Committee to draft resolutions concerning the death of Dr. John G. Cecil, made a report submitting the following resolution.

By an inscrutable decree of an All-wise Providence death has again invaded our society and Dr. John Giles Cecil in the zenith of his career of usefulness, and in the prime of intellectual life, has been called to his reward.

Resolved, That in the death of Dr. Cecil this society has lost an accomplished, thorough and sound medical scholar, an earnest and zealous colleague for the advancement of our profession, and a pre-eminent and worthy exemplar of honor and integrity.

Resolved, That in the loss of this able physician

possessed of great judgment and skill, and a medical teacher of surpassing merit, the community, in common with ourselves, has experienced a profound bereavement.

Resolved, That his example of earnest and faithful labor in his profession, his nobility and integrity of purpose that characterized all his actions, his Christian home ties and domestic relations, are memories to be cherished, and worthy the admiration and emulation of his survivors.

Resolved, That we tender to his family our condolences in the grief that has overtaken them; that a copy of these resolutions be presented to his family and published in the Kentucky State Medical Journal.

WM. B. DOHERTY,
Chairman.

J. M. RAY,

CLAUDE G. HOFFMAN.

Upon motion duly seconded and carried the report was received and the resolution adopted by the society.

NEW BUSINESS.

Dr. H. E. Tuley asked endorsement by the society of a bill proposed to be introduced at the next session of the legislature, providing that the management of the new City Hospital, when completed, shall be taken out of the hands of the Board of Public Safety, and put in the hands of a permanent Hospital Commission to be appointed by the Mayor. Seconded. Moved by Dr. W. F. Boggess that motion made by Dr. Tuley be tabled until a draft of the proposed bill has been written and its exact contents can be ascertained by the society.

Dr. Virgil E. Simpson announced his resignation of the office of Business Manager of the Jefferson County Number of the Journal, and stated that the co-operative plan of obtaining advertising necessary for the continuance of the Journal would be resumed.

REPORTS OF OFFICERS.

REPORT OF SECRETARY.

Mr. President, Fellow Officers and Members of the Jefferson County Medical Society:

Before making this report your secretary in retiring from office wishes to first thank the society for the honor so bestowed and trusts that his record has merited your confidence, further he wishes to thank the officers and members both collectively and individually for their hearty cooperation and support.

In making this report your secretary points with pride to the present condition of the society. There has been a considerable increase in membership, an increase in balance in the treasury, an increased interest, an increase in attendance, perfect harmony prevailing and still brighter prospects for the future.

Scientific Work.

The programs as furnished by your Program Committee have always been of the highest type and with very few exceptions those upon said programs have responded when their names were called. We desire to thank the Program Committee for its excellent work—and by the way this is one of the most important committees of the society, as the attractiveness of the program has all to do with the attendance.

Before leaving the scientific work we must mention the Jefferson County Number of the Kentucky Medical Journal, of which the society should feel very proud. The members should rally to its support and patronize its advertisers, as it exists through its advertisements. Dr. V. E. Simpson, its business editor, to whom the society is greatly indebted for his untiring efforts, should have the help of every member of this society in keeping the Journal going.

Financial and Business.

The financial affairs of the society were never in better condition. They have been well taken care of by your most efficient Treasurer and by Mr. H. S. Smith, who has looked after the renting of the hall.

In connection with the management of the society's business affairs we wish to thank both Mr. Smith and Miss Goff, the Librarian for their faithful and untiring efforts in discharging their respective duties.

Library.

During the past year quite a number of journals were bound. The circulating branch has materially increased and is very popular. The cataloguing has been nearly completed. We desire to thank the Library Board, especially Dr. Lindenberger, its Chairman for his great interest in the library, also to thank Miss Goff for the faithful discharge of her duties as Librarian.

Public Policies.

During the year there has been very little action taken by the society out of the ordinary in regard to public affairs, a few of which follow:

A local Red Cross Committee was appointed to cooperate with the Committee on Red Cross work of the A. M. A., said committee to be called upon to render medical aid during any great public disaster.

The society voted as favoring the adoption of one telephone. Nothing definite has as yet been accomplished.

Resolutions were adopted by the society in an effort to secure admission of surgical instruments duty free, copy of same sent to the congressman from this district and a request made that other societies take up the same cause.

A committee appointed to cooperate with a like committee from the Louisville Board of Trade, looking towards ways and means of preventing so many unjust damage suits.

A Committee was appointed to look into the feasibility of drafting and having presented to the next legislature, providing that in the future alleged insane persons shall be passed upon by a commission of medical men and not by jury.

Officers and Committees.

Officers	5
Executive Committee	3
Judicial Committee	6
Membership Committee	3
Program Committee	3
Clinical Cases and Specimens	2
Library Board	4
Milk Commission	4
Editorial Committee	3
Reporter	1
Librarian	1

Meetings and Work Done.

Meetings	39
Present, average about 75 or	80
Essays	37
Addresses by non-Members	4
Call Meetings	2
Patients Presented	19
Specimens Exhibited	13
Cases Reported	78
Discussions	331

Membership.

Number, close of 1912	242
Number elected in 1913	64
Number by demit in 1913	0
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	306
Lost by death in 1913	4
Lost by Demit in 1913	11
Lost by Delinquency, 1913	26
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	41
Close of 1913	265
Close of 1912	242
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Net gain	23

Recommendations.

Your secretary desires to make the following recommendations:

First. That a larger membership committee be appointed and that they be instructed to hold a meeting at least once a month and discuss ways and means of increasing membership and review names of non-members who are eligible and desirable.

Second. In selecting committees, the proposed ones be consulted with and his duties be made known, and promise exacted that he will discharge said duties to the best of his ability. When efforts have ceased to do so, he automatically ceases to be a member of said committee.

Third. That more adequate means be provided

for keeping the records and correspondence of the society.

Respectfully submitted,
A. C. L. PERCEFULL, Secretary.

Moved and seconded that the report be received and adopted and a vote of thanks tendered the Secretary for his efficient service. So ordered.

REPORT OF TREASURER.

Jefferson County Medical Society.
December 22nd, 1913.

Receipts.

Dues	\$3119.00
Hall Rent	471.00
Interest	14.49
Balance 1912	159.29
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	\$3763.78

Disbursements.

Rent	\$1332.60
Salaries, Stenographer and Librarian...	960.00
State Dues	797.50
Printing	64.10
Piano Rent	60.00
Miscellaneous	190.91
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	\$3405.11
Total Receipts	\$3763.78
Total Expenditures	3405.11
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	\$358.67
Hall Rent, uncollected	26.50
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	\$385.17

In a comparison of the disbursements for the year 1913 with those of the preceding year, it should be borne in mind that during 1913 dues for the State Society and Medical Defense were raised from \$2.50 to \$3.00, necessitating the payment to the State Society of \$.50 per member more than was paid in the preceding year, making a total of \$797.50.

Ky. State Medical Ent. Fund.....	\$180.32
Balance 1913	358.17
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Total on hand

E. L. HENDERSON, Treasurer.

Moved and seconded that the report be received and adopted and a vote of thanks tendered the treasurer for his efficient service. So ordered.

REPORT OF THE EXECUTIVE COMMITTEE.

Gentlemen:

In making this, the second and last report, we wish to state that the work of this Committee has been pleasant and harmonious since our election two years ago. At no time has there been dissection in our committee. It has been of great aid to the committee in having one member who was particularly adapted to "Forsee" the future

effect of any question which might arise.

Several questions, all important, that had much to do with the success and usefulness of the society, have been brought before your committee. We have kept no record of such questions, and cannot give a detailed report, however, we can say that all questions were decided according to what we thought best for the society.

The fact that only one question which was recommended did not prevail, showed that we were not dictatorial, or in any way offensive to the will of the society. We recommended that the society remain in the Atherton Building, however, new phases as to the possibilities at the City Hospital developed the fact that suitable quarters could be secured there, and was so accepted by the society.

As far as we can recall this is the only instance where our recommendations were turned down. We hope that the new committee will be as successful, and work as harmoniously as your retiring committee.

Recommendations.

Some weeks ago the proposed Nurses' Bill was handed to us for our advice. After a conference with all of the Committeemen, we recommended that the County Society approve of this bill, as printed and recommended by the Kentucky State Medical Association.

As to the future policies of the society, your committee unanimously concur in the belief that some step should be taken concerning the criticism of the Medical Expert Witness. From the personal observation of a member of your Committee, we know that many of the doctors are being hounded and persecuted, and we are all subject to the same evil by the liability to be sued for malpractice. We have absolutely no recourse. Unscrupulous parties can enter suits against us and all we can do is to fight, and if we win we often have to pay the court costs on account of the plaintiff's having no means.

The Committee feels that if the supposed criticism of the medical witness could be removed, and show to the legal profession that we, as a society, want to do right, and fight for what we think is fair, we can in turn expect them to do the same by us. In plain words say to the legal profession "We have stopped the abuse of the medical testimony, you stop the unscrupulous attacks upon us."

We recommend the following amendment to the Constitution and By-Laws and ask a due and thoughtful consideration of same:

Witness Committee.

Whereas, we the members of the Jefferson County Medical Society, realizing the increasing skeptical attitude of the general public towards the testimony of alienist and other medical experts as given in the various courts of our Commonwealth and desiring to aid in so far as

lies within our power to save our profession from unjust criticism as well as to aid in the administration of justice to all litigants and to the general public, do hereby adopt the following resolutions as a portion of the Constitution and By-Laws of this society:

Be it Resolved, First, That at the annual meeting of this society the President shall appoint a committee of not less than three and no more than seven whose duty it shall be to select from the members of this Society such of its members as make a specialty of the various branches of the profession of medicine and surgery, such selection not to exceed in number fifty, to act as expert witnesses in the various courts of Jefferson County, Kentucky, the selection of such committee to be recommended to the society at the first monthly meeting succeeding the annual meeting for the approval and indorsement of the society, such approval and indorsement to be indicated by ballot;

Second, That any member of this society shall have the privilege of voting for any other member of this society not placed in nomination by the committee provided for in the section immediately preceding this section, and that the fifty members of this society receiving the highest vote shall constitute a committee of fifty physicians and surgeons to be recommended to the courts of this county and to the member of the Jefferson Bar Association as experts particularly qualified to testify in such cases as involve facts pertaining to the various branches of medicine and surgery.

Third, That this society does hereby express its condemnation and disapproval of the prevailing practice of physicians testifying without consultation with each other in suits at law, and we do hereby recommend that in future, at least, so far as members of this society are concerned, that no physician or surgeon shall testify as an expert witness in any suit in the Court of Jefferson County until he has had a consultation with the physician or surgeon representing the opposing litigants, or until he has exhausted every means to hold such consultations; and that in the event the physicians and surgeons representing the opposing litigants cannot agree a third physician or surgeon be called into consultation, this recommendation of course, it is not intended to influence any physician or surgeon to express any opinion other than that he may conscientiously hold after the consultation which has been recommended, and is in no wise to be construed as an effort to influence the violation of any oath administered in a court of justice;

Fourth, That such fees as shall be paid physicians and surgeons who are members of this society in such cases as they may be called upon to testify in, shall be fixed by the presiding judge, and no fee or fees for expert testimony shall be accepted from litigants other than fees fixed by

the presiding judge of the court in which is tried the case they testify n;

Fifth, That such physician and surgeon who is a member of the committee of fifty receiving a fee as an expert witness shall pay to this society or library 20 per cent of such fee;

Sixth, That this resolution shall take effect on the 1st day of February, 1914; and;

Seventh, That copies of this resolution be furnished the Judges of the various trial courts and Courts of Chancery in Jefferson County and to the Jefferson County Bar Association.

We of the Executive Committee endorse and recommend the above amendment to our constitution.

JOHN J. MOREN, chairman,
C. G. FORSEE,
WALTER F. BOGGESS.

It was moved by Irvin Abell that the recommendation of the Executive Committee to endorse the proposed bill for the "Regulation for Trained Nursing in Kentucky" be adopted by the society. Seconded and so ordered.

The president said that without objection the consideration and vote upon the proposed amendment of the constitution as recommended by the Executive Committee would be set for the first regular meeting in February and the secretary instructed to give all members constitutional notice of same.

REPORT OF MEMBERSHIP COMMITTEE.

Jefferson County Medical Society, December 22nd, 1913.

The membership of the Jefferson County Medical Society for 1911 was 200; for 1912 it was 242, and for 1913 is 265.

Comparing these figures, it shows that the society has gained for 1912 in membership, 42, in 1913, 23. While we were not able to obtain as many members this year as we gained in 1912, yet the membership has substantially increased, —the increase coming mainly from the younger members of the profession.

This has been encouraged by the Membership Committee, and yet an effort to increase the membership from the older physicians of the county has not been overlooked. After a great deal of personal canvassing among the members of the profession, the following letter was sent to a hundred doctors in the county, who were not members of the society:

"My Dear Doctor:—As Chairman of the Membership Committee of the Jefferson County Medical Society I am making this appeal to you, in order to secure as many members of the profession as possible for the Jefferson County Medical Society before the year expires.

"The dues are \$12.00 per annum. This entitles you to membership in the society, and carries with it, not only the Jefferson County Number of the State Journal, but also the Kentucky

State Journal in addition. It also entitles you to a paid membership card in the State Society and the benefits of the Medical Defense organization of that society, which protects you against damage suits for malpractice.

"We are anxious to have you join us and feel certain that we can help you, as well as you help us. The scientific programs are splendid. The clinical reports of cases and the essays are all arranged from the membership list in alphabetical order. If all this does not appeal to you sufficiently we invite you to attend some of the meetings, which take place in the meeting room of the society, 700 Atherton Building, every Monday evening, at 7:45 P. M."

Your Committee would recommend early in coming year a field day canvass similar to the effort of some time ago.

C. H. HARRIS,
Chairman Membership Committee.

Moved and seconded that the report be received and adopted and a vote of thanks tendered the Membership Committee for its efficient service. So ordered.

REPORT OF PROGRAM COMMITTEE.

To the President and Members of the Jefferson County Medical Society:

Your Program Committee feels that through the monthly programs, regularly mailed to all members it has kept even those irregular in attendance informed of what it has done toward securing interesting and profitable subject matter for your weekly sessions. In arranging these programs the customary rule of alphabetical rotation has been adhered to as far as practical. It has not been always easy to complete them and if at times they have been tardily received by you the Committee has not been wholly at fault. In many instances the difficulty arising out of eleventh hour withdrawals has been overcome by the readiness of certain accommodating members to fill the breach upon short notice; their material help is gratefully acknowledged by the Committee.

It desires also to give full credit to Dr. Keith of the Clinical Report Committee for his dependable co-operation.

Respectfully submitted,
LEE KAHN, Chairman,
S. SCOTT PRATHER,
J. ALLEN KIRK,

It was moved and seconded that the report be received and adopted and a vote of thanks tendered the Chairman of the Program Committee. So ordered.

REPORT OF THE LIBRARY BOARD.

Of the Jefferson County Medical Society for the Year 1913.

To the President and Members of the Jefferson County Medical Society:

The Library Board wishes to submit this, our

report of the management of the Library this past year:

In April, of this year, there being no money in the treasury of the Library Board, there was donated by the society the sum of \$100. This money was spent mostly in the binding of journals, many of these journals not having been bound for several years. There was a total of 85 volumes. In the latter half of the year, namely after July 1st, there were 12 volumes bound. The total cost of this binding amounted to \$87.90. This work was given out after various bids had been taken, the bid of John P. Morton Company being much the lowest.

There has been purchased for the Library four volumes. This expenditure bringing up the total expenditure of \$100, the sum donated.

Considering the fact that the society as a whole is to move, the Library of course going with it, we have no especial recommendations to make, except to say that there will be an expense in moving, and probably more so if the Library is to be properly installed. This expense in moving probably will not be so light as the time and trouble incurred will necessitate the use of intelligent handlers.

There may be some names overlooked regarding the donors to the Library, the past year, but we wish to thank especially Dr. H. E. Tuley, who has supplied us with very many of the current journals. Dr. Louis Frank, Dr. M. L. Ravitch Dr. Jno. J. Moren, Dr. Cuthbert Thompson, Dr. Jno. R. Wathen, Dr. R. B. Gilbert, Dr. Lewis McMurtry, and Dr. W. T. Hayes.

It is known to the Library Board that there are some present members of the society who in their wills have donated at their death their libraries to the Jefferson County Medical Society. As these libraries after death bring so little in a financial return to an estate, this suggestion is made with the hope that it may be followed out by those who are now members or irrespective of the fact.

Books.

Number of Volumes in the Library in	
1912	7,000
Number of Volumes Donated in 1913	200
Total	7,200

Between 4,00 and 5,00 of these books are catalogued.

Journals.

There are 105 current journals on the shelves, bound up to July 1st, 1913.

The total attendance in the Library during the year was 879, or a daily attendance of 3.

Especial thanks is due Miss Annie Goff, our

efficient Librarian and stenographer for the work accomplished by her during the past year.

Respectfully submitted,
IRVIN LINDENBERGER, Chm.
J. A. O. BRENNAN,
DAVID C. MORTON,
B. W. BAYLESS,

Library Board.

REPORT OF THE MILK COMMISSION.

To the President and Members of the Jefferson County Medical Society:

Gentlemen:

Your Committee wishes to make its Seventh Annual report. The original work outlined for this Commission was that it should arrange for a clean, pure milk supply free from the germs of tuberculosis or any other infectious disease. For the first year this milk was used principally for infant feeding, but as time wore on, certified milk began to be used in many homes exclusively until at the present time about twenty times as much is being supplied now, as was used to the end of the first year. Not only has quantity of certified milk increased, but we are delighted to report that we have had very little trouble in keeping it up to the standard set by the American Commission of Certified Milk. The tuberculin test is applied yearly to our Certified Herds. Last year we found only one cow reacting in our entire herds of 450 cows, this proves that tuberculosis can be eradicated from herds by careful examinations. During the last year we have had very few complaints either from doctors or from the users of Certified Milk. Whenever we do get such a complaint we immediately take steps to find out the cause of the trouble. We are also pleased to find that dairies producing certified milk have served to educate dairy men in their neighborhood how clean milk can be produced, and in this way the standard for market milk has been greatly improved in this city.

We regret to record the loss our Commission has sustained in the death of Dr. Cecil, one of the original members of our Commission. Although he was not able to devote much time to this work, still his advice was always sought, and much appreciated by the members.

CUTHBERT THOMPSON, Chm.
BEN CARLOS FRAZER, Secy.,
J. ROWAN MORRISON,
HENY ENOS TULEY.

ELECTION OF OFFICERS.

President directed the Secretary to call the roll. Moved by W. F. Boggess that roll call be dispensed with. Seconded and duly carried.

Nominations for President were then called for and the following names were placed in nomination. Carl Weidner, Sr., nominated C. H. Harris. Seconded by Ap Morgan Vance and E. S. Allen. Dr. Grant nominated Harry J. Phillips. Seconded by W. F. Boggess. President appointed

Drs Keith, Yeatts, Hall and Trawick as tellers. After balloting the tellers announced that C. H. Harris had received a majority of votes cast.

Moved by Dr. Grant that the election of Dr. Harris be made unanimous. Seconded and so ordered. President appointed Harry J. Phillips and D. Y. Keith to escort the new president to the chair.

Nominations for First Vice-President were then called for, and the following nominations were made:

Dr. Dunning S. Wilson nominated Claude G. Hoffman. Seconded. Irvin Abell nominated A. W. Nickell. E. S. Allen nominated E. F. Katzman.

Dr. Hoffman received the majority of votes cast and was declared elected First Vice-President.

Nominations for Second Vice-President: E. L. Henderson nominated D. Y. Keith. It was moved and seconded that the nominations be closed and the secretary instructed to cast one ballot for Dr. Keith for Second Vice-President. So ordered.

Nominations for Secretary: Dr. W. B. Gossett nominated E. L. Henderson. It was moved and seconded that the nominations be closed and the secretary instructed to cast one ballot for Dr. Henderson. So ordered.

Nominations for Treasurer: Jno. J. Moren nominated A. C. L. Percefull. It was moved and seconded that the nominations be closed and the secretary instructed to cast one ballot for Dr. Percefull as Treasurer. So ordered.

Nominations for Judicial Council: W. F. Boggess nominated Geo. S. Coon. Sam P. Meyers nominated W. Barnett Owen. Virgil E. Simpson nominated S. C. McCoy and E. L. Henderson nominated Barnard Asman. It was moved and seconded that the three names receiving the highest number of votes on the first ballot be declared elected. After balloting, the tellers announced the following elections: W. Barnett Owen, S. C. McCoy, Barnard Asman.

Drs. Owen and McCoy having received the highest number of votes, respectively, were declared elected for the full term of two years each, and Dr. Barnard Asman was declared elected to fill the unexpired term of W. T. Bruner.

Nominations for Executive Committee: E. Y. Roberts nominated Robt. T. Pirtle, J. Rowan Morrison nominated David C. Morton, Jno. J. Moren nominated J. Garland Sherrill, E. W. Stokes nominated W. C. White, Virgil E. Simpson nominated Harry J. Phillips.

Moved and seconded that the number of names receiving the highest number of votes on the first ballot be declared elected in like order.

Drs. Phillips, Morton and Sherrill, having received the highest number of votes cast were declared elected members of the Executive Committee for the period of two years.

The society then adjourned.

A. C. L. PERCEFULL, Secretary.

COUNTY SOCIETY REPORTS

Carlisle—The Carlisle County Medical Society met in the office of Dr. Geo. W. Payne, Bardwell, Ky., December 2nd, 1913, at 10 A. M., with the following members present: Drs. W. Z. Jackson, J. F. Dunn, and R. F. Hocker, of Arlington; G. W. Payne and T. J. Marshall, of Bardwell. We had the pleasure of entertaining the Rev. Bro. Hutton, of Arlington.

In the absence of both the President and Vice President, W. Z. Jackson was elected president pro tem.

J. F. Dunn read a paper on the "First State of Labor."

T. J. Marshall read a paper on the "Second and Third Stages of Labor." All present entered into the discussion.

The society then adjourned to the Richardson Hotel for dinner, and reconvened at 1 P. M.

R. T. Hocker read a paper on "Puerperal Fever," which was discussed by Payne and Marshall.

The following officers were elected for the year 1914: President J. F. Dunn, Arlington; Vice President, H. A. Gilliam, Milburn; Secretary, T. J. Marshall, Bardwell; Treasurer G. W. Payne, Bardwell; Censor R. T. Hocker, Arlington.

Motion made and carried that the society adopt resolutions expressing our sympathy to H. T. Crouch and W. L. Mosby, they both being confined to their rooms on account of illness.

The society adjourned to meet in Arlington the first Tuesday in March.

T. J. MARSHALL, Secretary.

Christian—The Christian County Medical Society met in regular session in the Avalon, Hopkinsville, Tuesday, December 16th, at 1:30 P. M., with President Stites presiding. The members present were F. M. Stites, J. W. Harned, Austin Bell, T. D. Rudd, M. H. Rozzell, J. E. Johnson, Andrew Sargeant, J. H. Donnelly, E. L. Gates, F. H. Bassett, G. W. Lovin, O. L. Barnes, J. H. Rice, S. H. Williams, W. A. Lackey, D. H. Erkiletain, B. A. Caudle, J. L. Barker, J. A. Southall, W. E. Reynolds, H. C. Beazley, H. W. Watts, and W. S. Sandbach.

As this was the annual meeting for the election of officers after the reading and adoption of the minutes of the last meeting the President called the election.

J. L. Barker moved and it passed that the election be made by nominations. Drs. Gates, Watts and Bassett were nominated for president, and only after the third ballot that Dr. Watts was elected over Dr. Gates, by two votes. The rest of the officers were elected by acclamation and resulted as follows:

President, H. W. Watts; Vice President, E. L. Gates; Secretary-Treasurer, W. S. Sandbach;

Censor, J. H. Rice; Delegate, F. M. Stites and W. S. Sandbach.

As a compliment to W. S. Sandbach for his services as Secretary, Dr. Barker moved and it was passed unanimously that the society pay Dr. Sandbachs railroad fare and hotel bill while he attends the State Meeting at Newport.

The President appointed a Committee composed of Drs. Erkiletian, Rice and Williams to draw resolutions on the death of L. J. Harris.

B. A. Caudle and **E. L. Gates** presented an exceedingly interesting clinical case of inherited syphilis.

As we had no program for this meeting we adjourned, everyone feeling good with a unanimous support of the officers and the prospects better for a larger and better society than ever before.

W. S. SANDBACH, Secretary.

Daviess—The Daviess County Medical Society held its greatest December meeting on the 16th. Forty-seven members were present.

In looking over the hall we saw that venerable and honored member, C. H. Todd, who was assistant surgeon with Lee at Gettysburg, and who was elected president of the Kentucky State Medical Association at Frankfort in 1878 and presided at Danville in 1879 when the monument to McDowell was unveiled. That other ex-President of the State Society, the handsome and genial D. M. Griffith, who is able to speak for himself. Also the President-Elect J. W. Ellis, from whom I withhold comment till you hear him at Newport next October. If you are not proud of him then I shall be surprised. Another member was present, of whom we are very proud, S. J. Harris, the silver-tongued orator of Philpot. He followed Pickett in his famous charge at Gettysburg. Has practiced medicine at Philpot, this county, for over forty years; was county physician for twenty years; served one term as president of our society, but has always been too busy to hold an office in the State Society.

J. W. Ellis read a paper on medical ethics which we will send in for I am sure everyone will read it with pleasure and profit.

J. H. Thorpe late of Beech Grove, McLean County, was elected to membership.

R. C. Foster, who recently came from Oklahoma, made application for membership.

The annual election of officers then took place with the following result.

President, J. M. Stuart; Vice President, Z. H. Shultz; Secretary-Treasurer, J. J. Rodman; Delegate, J. T. Dixon; Censor, J. L. Carter.

The society then adjourned to the dining room of the Methodist Memorial Church and did justice to a dinner which the ladies had prepared at the suggestion of the city society.

At the afternoon session some interesting cases were discussed.

J. J. RODMAN, Secretary.

Franklin—The Franklin County Medical Society met in the office of Drs. Williams & Mastin, Frankfort, Ky., Jan. 5th, 1914 at 11 A. M. in social session. Present: G. A. Budd, G. H. Heilman, N. M. Garrett, Curtis Austin, of Bagdad; E. E. Hunne, Johns Hopkins, F. W. Mastin, U. V. Williams, J. W. Hill, L. T. Minnish, W. Montfort, Jno. Patterson, A. Stewart, J. S. Wilson.

U. V. Williams presented a case of bronchopneumonia in an infant of nine months with history and treatment, discussed by all the doctors present.

N. M. Garrett presented a paper on "Management of Labor in Contracted Pelves," in which he reviewed the history from over a thousand cases, in which the subject was elaborately presented, discussed exhaustively by all the members present. After which a vote of thanks was presented to Dr. Garrett for his excellent paper.

G. A. Budd and **A. Stewart** were appointed to prepare papers for the next meeting, which will convene on February 2nd, 1914, at the same place. After which the society repaired to the Manhattan Cafe where an elegant buffet luncheon was served, which was as ably discussed and as fully enjoyed as were the intellectual proceedings.

The society then adjourned.

U. V. WILLIAMS, Secretary.

Harrison—The Harrison County Medical Society met November 3rd, as guests of M. McDowell. The meeting was called to order by President M. McDowell. Minutes of last meeting read and approved. Members present: Rees, Wood, Givens, Smizer, Martin, N. W. Moore, Wells, Midden, Best, W. B. Moore, Lail, McIntire, Mussleman and I. A. Shirley, of Winchester.

Committee of three appointed to arrange for a banquet at the December meeting.

N. W. Moore reported fatal case of poisoning by wood alcohol.

R. W. Wood presented a man 47 years of age with chronic suppurating sinus in lower third of femur of twenty years duration, patient also had large amount of albumin in urine. This case was discussed freely.

M. M. McDowell read a paper on "Treatment of Infected Wounds." Discussed by J. E. Wells, J. M. Rees, N. W. Moore, Mussleman and Givens.

J. Martin, J. M. Rees and **W. B. Moore** made talks on "Anaphylaxis."

I. A. Shirley gave us a splendid talk on "Hookworm," and heartily thanked the members for the support given him during the campaign in this county.

The society adjourned to Dr. McDowell's dining room, where an elegant supper was enjoyed by all present.

W. B. MOORE, Secretary.

Harrison—The Harrison County Medical Society held its December meeting at Elks' Home, December 1st. After the banquet, the society

was called to order by President M. McDowell. Members present: H. T. Smizer, Wells, Boyd, Mussleman, Givens, Wood, Patterson, Lail, Yyles, Phillips, Swinford, Vanderin, Petty, Carr, Martin, Rees, Best, N. W. Moore, Midden, McDowell, W. B. Moore, J. W. Pryor, of Lexington.

On motion the chair appointed a committee to petition the next legislature to pass the bill regulating the practice of nursing in this state.

The election of officers for 1914 resulted: H. T. Smizer, President; B. B. Petty, Vice-President; W. B. Moore, Secretary; W. F. Phillips, Treasurer; Dr Carr, Censor, and L. S. Givens, Delegate to State Meeting.

The officers for 1914 having been chosen J. W. Pryor gave a stereopticon lecture on the development of bones which was very instructive and showed the doctor had done a great deal of original work on the subject.

Meeting adjourned to meet January 5, 1914.

The society has accomplished much during the year. We can and will do better in 1914. Three members failed to pay their dues this year but we hope they have seen the error and will return to the fold.

W. B. MOORE, Secretary.

Henderson—The Henderson County Medical Society held its annual banquet on the evening of December 30th. The banquet was an unqualified success.

Several visitors were present, as invited guests, and every one said that it was one of the most enjoyable affairs the society has ever held. Although the night was very inclement, there were quite a number of the physicians in from the country. Dr. Graham acted as toastmaster, instead of "roastmaster" as is frequently the case, and he seemed to have something good to say about everyone. In calling upon Dr. Albert S. Denton of the country, the toastmaster spoke very feelingly about the trials, merits and pleasures of the "Country Doctor," and recited a few lines from Will Carleton's celebrated poem of that name:

"He has learned that Death is master both of
Science and of Art;
He has done his duty fairly, and has acted out
his part,
And the strong old country doctor,
And the weak old country doctor,
Is entitled to a furlough for his brain and for his
heart."

Then giving Dr. Denton as a toast "The Need of a Furlough," to which the doctor responded in a very interesting talk.

Another very interesting talk was made by the Rev. Dr. Adams of the Methodist church in responding to the toast, "The Installment Plan."

This is my first meeting with this society in their annual banquet, since I have been located in Kentucky, and I think it one of the best ways to bring the doctors together, and in social meet-

ings forget their differences, their trials and worries in the pleasant jest and story of an annual feast.

I enclose you a copy of our annual programme.

Hoping this this year will be the best in the history of Kentucky medicine.

B. J. NEARY, Secretary.

Knox—The annual election of officers of Knox County Medical Society was held December 28th. Officers for 1914 are as follows: S. C. Jones, Barbourville, President; Geo. T. Corum, Wilton, Vice President; C. L. Heath, Lindsay, Secretary-Treasurer.

We will have program for the entire year, will send it in as soon as completed.

C. L. HEATH, Secretary.

Todd—The Todd County Medical Society met at Elkton, December 3rd, 1913. It being the regular annual business meeting. Election of officers: President, C. M. Givens, of Trenton; Vice President, J. M. Robinson, of Guthrie; Secretary-Treasurer L. P. Trabue; Delegate to State Meeting, R. W. Fry, of Trenton; Alternate, W. E. Bartlett; E. T. Riley, of Trenton, to Board of Censors.

L. P. TRABUE, Secretary.

Laurel—At the annual meeting of the Laurel County Medical Society, December 17, 1913, the following officers were elected for the ensuing year:

President, J. W. Crook; Vice President, H. V. Pennington; Secretary and Treasurer, Oscar D. Brock; Censor, H. S. Pitman; Delegates, P. E. Bryant and H. V. Pennington.

O. D. BROCK, Secretary.

Muldraugh Hill—The Muldraugh Hill Medical Society called to order at 11:30 A. M. by Secretary in the courthouse at Mumfordsville, twenty-two members being present.

The Secretary called attention to the fact that no President or Vice-President being present, the first business at hand would be the election of a temporary chairman. R. C. McChord, of Lebanon was chosen by acclamation.

The Secretary read a financial statement the minutes being passed.

Hon. W. H. Strange, of Mumfordsville, delivered an address of welcome to the society in a masterful manner.

Curran Pope responded in his inimitable style. Adjournment for dinner.

After dinner the society reconvened for the election of officers. Curran Pope was elected President unanimously. G. C. Hall was re-elected Secretary.

On motion of R. C. McChord a Committee composed of Drs. Pope, Riggs, and Hall was appointed to redraft the constitution and by-laws together with the readjustment of the geographical

outline of the Society. Carried. Report to be made in April.

A letter from Dr. W. A. Ligon was read by the Secretary requesting his withdrawal from the society on account of ill health. On motion by the Secretary, the society voted Dr. W. A. Ligon an honorary member of the society and wrote him a letter of condolence.

Scientific Program.

C. T. Riggs reported a case of "Cystic Fibroma of the Neck," lying under the sheath of sterno cleido mastoid muscle.

H. E. Tuley being absent Dr. Trawick opened the symposium on Social Hygiene by making a statement defining the limits of social hygiene, its scope and the hopes of its adherents after which he read a paper on "Heredity and Child Welfare."

H. J. Farbach read a paper on the "Problem of Sex Education."

Curran Pope delivered an address on "Social and Sex Development in its relation to the Neuroses and Psycho-Neuroses."

H. J. Farbach opened the discussion and spoke upon the difficulty of getting a discussion on such subjects, and the erroneous instincts that repressed it. We should proceed slowly among the general public but there should be no hesitation among lawyers, ministers, doctors, or professional men discussing such subjects. Advocated sane sex education and health certificates at time of marriage.

R. C. McChord complimented the symposium and the authors of the papers. Thought it was a most important subject and one often neglected. Thought sex education should be begun early and treated tactfully. Thought more deaths caused by gonorrhoea and syphilis. Discussion of subject should be open and there should be but one standard of morals. Thought women partly to blame as they allow immoral men to be received in their houses and marry them.

H. P. Honaker thought that early sex education was the solution of the difficulty; that the mother was the proper teacher but some one must teach the mother. It will take more than a generation to accomplish the task. Parents should be the confidential advisers and friends of the children.

The medical profession have a duty to perform in instructing the laity along sex matters and should take this task with them in their daily rounds. We should do right for right's sake and put aside fear of law or consequences.

B. J. Bolin complimented the presentation of the subject. Thought heredity and environment cast the whole of our lives. Spoke of the incidence of heredity in institutions of feeble minded and insane due chiefly to syphilis and alcohol. Spoke of the curse of licentiousness and thought that if people were as continent as animals a greater race of people would be brought forth.

Broad educational principles should underlie our treatment of our people in our educational campaign.

J. J. Mudd complimented the readers of the papers. Thought that the medical profession might reach some people but there were certain classes that no one could reach. Thought that alcohol was responsible directly for the cause of much crime and venereal disease.

S. F. Richardson called attention to the fact that woman's education prompts her to look up to men in her home life and makes her trustful towards all men. Was surprised at the tender age in which the child seeks enlightenment.

J. D. Trawick thought eugenic conscience of profession was awakening. Must take study of child through parents. Thought matter of woman's dress over estimated. Has nothing to do with education of small child in sex matters. This dress question applies only to adult males. Thought hypogenetic tendencies that crop out in children due to characters or potentialities in ancestors. Must teach more than simple truth in sex education but must teach also morality and refinement.

Curran Pope in closing said we inherit only tendencies or trends. Spoke of difficulty that people have in giving instruction in sex matters. Quoted St. Ignatius Loyola as to importance of early education up to age of seven. Don't be a liar to the children because it lays up trouble for parent; causes disrespect. Thought it a good sign that such plays as "Damaged Goods" could be presented to the public in serious manner.

J. B. Shacklette read a paper, "Is the Demand for the Services of the General Practitioner Growing Less?"

G. C. Hall, opening the discussion, referred to refraction work done by the general practitioner. Should not be attempted unless thoroughly done by use of drops and retinoscopy which was easy to learn and required no expensive apparatus. In cases of foreign bodies in oesophagus or air passages the general practitioner was often tempted into injudicious treatment under the idea that something must be done. In cases of great cyanosis or impending suffocation low tracheotomy should be done at once and patient rushed to hospital. In cases with no urgent symptoms the patient should be sent to one versed in bronchoscopy and X-ray plate made to locate the offending substance and extraction done through natural passages. Blind passage of sounds, probangs, etc was condemned unreservedly.

J. D. Trawick enjoyed the paper. His own father was a general practitioner. The general practitioner's work should not be growing less. The field is broader now than it ever was. General education among physicians is better. Physicians are becoming interested in social problems and improvement of general physical

well being of community. Rural physician is greatest factor for uplift of his community.

C. T. Riggs spoke of the arduous labors of the old time practitioner. Thought that the general man should not dabble in special lines. Had tried refraction but given it up.

C. C. Carroll thought that doctors should not complain. As a class they they were well fed. Must not degrade the profession by putting it on a money basis for they were humanitarians primarily and should be proud of such a calling.

Curran Pope thought that if we eliminated the quack, charlatan, etc., there would be much less reason for the general practitioner to complain. There are no secrets among specialists.

J. B. Shacklette disclaimed in closing any reference to secret specialists and referred to them as irregulars. Thought no one should attempt work they can not successfully treat. Thanked the gentlemen for their discussion.

R. C. McChord closed the program by reading a paper on "The Treatment of the 'So-called' Inoperable Cases of Cancer of the Cervix."

Discussion opened by Dr. Farback, who complimented the doctor on the simple and direct manner in which he presented the results of his researches. Dr. Farback spoke of the efficiency of the vulcan soldering iron and the necessity of watching the temperature of the surrounding tissues.

J. J. Mudd reported several interesting cases of cancer of the cervix.

C. T. Riggs moved to extend to the Hart County Medical Society a vote of thanks for their kind hospitality. Carried.

R. C. McChord in closing discussion thanked the members for the interest and said that it was surprising how much good was accomplished by this method of treatment. He cited several cases of his own that had been so treated with great improvement.

No farther business coming before the society the meeting was declared adjourned to meet again in April at Elizabethtown.

It was a matter of regret that more of the members in the other counties did not attend. Several well beloved and familiar faces were absent. We hope to see them at our next meeting.

GAYLORD C. HALL, Secretary.

Pendleton—The Pendleton County Medical Society met at Butler, Ky., on Wednesday, October 8, 1913, with the following members present: Drs. Blackerby, Brown, Clark, Daugherty, Hopkins, Woolery, John E. Wilson, Yelton, Caldwell, J. A., from Newport, and Dr. Eckler, who has recently moved into the county from Harrison county.

The meeting was called to order by President O. W. Brown. After reading journal of last meeting and roll call, we proceeded to business.

J. N. Blackerby made a motion that the secretary write the State Secretary and find out what action has been taken in regard to the Anti-Narcotic Law that is pending in the U. S. Senate. Motion carried.

We then had a splendid report of clinical cases by **J. A. Caldwell** and others present.

Afternoon Session.

First on the program for the afternoon session were papers by Dr. Ellis and Dr. Nichols, but neither being present nor ready, John E. Wilson read a paper on "Preventive medicine."

O. W. Brown read a paper on the same subject, the serum side of it. He rendered a splendid account of himself as he always does.

This closing the business of the day, we adjourned to meet on the second Wednesday in November.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson in Butler, on Wednesday, November 12, 1913, with the following members present: Beckett, Blackerby, Brown, Clark, Ellis, Kendall, McKinney, John E. Wilson, W. H. Yelton. Meeting was called to order with the President in the chair. After roll call and a reading of the journal we proceeded to the business of the day.

On motion of W. H. Yelton, that the chair appoint a committee of three to draught suitable resolutions of respect to V. E. Smith, whose death occurred since our last meeting. Motion carried.

The next thing in order was the nomination of officers of the society for next year, to be voted for at our next meeting. The following were placed in nomination: J. Ed Wilson for President; J. F. Daugherty for Vice-President; W. A. McKenney for Secretary and Treasurer; Dr. Woolery for Assistant Secretary; H. C. Clark for Delegate to State Meeting, after which nominations were closed. The Program Committee was instructed to have our programs ready to distribute at our next meeting. We then had a few reports of clinical cases.

O. W. Brown read a paper on "Atypical Pneumonia," which was discussed pretty thoroughly.

J. N. Blackerby read a paper on "Fracture of Long Bones, which elicited some discussion.

We then adjourned to meet December 10, 1913.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson in Butler, with the following members present: Drs. Beckett, Blackerby, J. M. Blydes, Brown, Clark, Cram Daugherty, Ellis, Hopkins, C. H. Kendall, McKinney, Nichols, John E. Wilson, J. Ed Wilson, W. H. Yelton.

The meeting was called to order by President

Brown, and after reading of the minutes and roll call we proceeded to the business of the day.

A resolution of respect to the memory of Dr. V. E. Smith was read, and ordered spread upon the minutes of the meeting and a copy sent to the Journal.

The officers nominated at our last meeting were elected to serve for the incoming year 1914.

After hearing some good reports of clinical cases and the reading of two good papers, we wound up the old year with a splendid attendance and a jolly good feeling of a kind fraternal spirit to all the members of the society. Thus closed a very profitable year to most of us. We then adjourned to meet the second Wednesday in January, 1914.

W. A. McKENNEY, Secretary.

Scott—The Scott County Medical Society met in regular session at the City Hall, December 18, at 10 A. M., J. E. Pack, President, presiding. Those present were Drs. Knox, Pack, Downs, Barlow, Johnson, Heath, Porter and allphine.

The following officers were elected for 1914: L. F. Heath, President; Wm. Mason, Vice President; E. C. Barlow, Secretary and Treasurer; L. F. Heath 3rd year Censor; H. V. Johnson, 2nd year Censor; J. E. Pack, 1st year Censor; W. B. Salin, Delegate; L. F. Heath, Alternate; R. W. Porter, Referee.

The society decided to meet quarterly on the first Thursday. Also to have program for meetings printed in advance.

E. C. BARLOW, Secretary.

Taylor—The Taylor County Medical Society met in the parlors of the New Merchant's Hotel, Campbellsville, on December 4, 1913, at 5 P. M. Present: Drs. Heistand, Reesor, Gowdy, O. M. Kelsay, S. H. Kelsay Black Buchanan and Atkinson.

The pre-prandial hours were spent in social converse, report of cases and reminiscences, serious, humorous, entertaining and instructive.

At 7:30 we adjourned to the dining room to discuss quail furnished by Dr. Heistand and the trimmings prepared by mine host Mr. Hoskins, of the New Merchant's Hotel, but the appearance of the table indicated that Mrs. Hoskins was the presiding genius in its preparation.

Following the feast the society adjourned to the parlors and engaged in a social session, the memory of which will linger with us long.

Officers were elected for the year 1914 as follows: President, O. M. Kelsay; Vice President, O. R. Reesor; Secretary-Treasurer, J. L. Atkinson; Delegate, E. L. Gowdy.

The reading of the papers prepared for this meeting was postponed till the next regular session, January 8, 1914.

J. L. ATKINSON, Secretary.

Whitley—The meeting of the Whitley County Medical Society was called to order and C. G. Ellison was elected temporary chairman in the absence of our president.

C. A. Moss read a paper on the use of salvarsan in the treatment of syphilis with histories of twenty-six cases. The paper was discussed by all doctors present.

A. W. Alsip delivered a talk on "Pellagra and Its Causes," and said paper was discussed by the doctors present.

The following officers were elected for the year 1914:

C. G. Ellison, Williamsburg, President; W. H. Parker, Williamsburg, Vice-President; C. A. Moss, Williamsburg, Secretary and Treasurer; L. B. Croley, Williamsburg, Delegate; S. S. Brown, Mt. Ash, Alternate; S. S. Brown, Mt. Ash, B. J. Edwards, Corbin, and J. H. Parker, Corbin, Board of Censors.

J. D. Adkins passing by stopped and greeted the members of the society.

The members were disappointed as they had expected to have Dr. Miller, of Knoxville, present to deliver a paper, but he was unable to attend.

There being no further business, the meeting was adjourned to the next regular meeting at Corbin, Ky., the first Thursday in February, 1914.

C. A. MOSS, Secretary.

Warren—The Warren County Medical Society met in regular session, September 17th, at 1:50 P. M.

In the absence of the president and secretary, Dr. Arnold was chosen as temporary chairman, and J. W. Lewis as secretary.

J. H. Blackburn made a report as Chairman of the Finance Committee for the entertainment of Kentucky State Medical Association. The members of the Warren County Medical Society contributed \$380.00; the business men of Bowling Green, \$22.50, making a total of \$602.50. The total amount expended for entertainment was \$394.28, which left a balance of \$208.28.

Dr. Stone moved that a purse of \$25.00 be given to Mr. Will Sumpter for his services in the management of the barbecue, which motion was seconded and carried by a unanimous vote.

The society unanimously voted to pro rata the remainder of the money on hand, and return to the business men who had contributed.

Drs. Blackburn and **Martin** reported a case of "Acute Hemorrhagic Pancreatitis," which was discussed by several members of the society.

After which the meeting adjourned till next regular time of meeting.

J. W. LEWIS, Secretary Pro Tem.

KENTUCKY MEDICAL JOURNAL

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EDITORIAL

ALL ABOARD FOR NEWPORT.

Happening to have a few hours to spare while sojourning in the muddy city of Cincinnati a few days ago, I concluded to take a run over to Newport to see the boys with whom it has been my pleasure to mingle once a year for a long, long time during the meetings of the K. S. M. A. I first found brother Anderson from whom I inquired for that famous hotel that he spoke of in such highly and gilt edged language at Bowling Green when inviting the doctors to visit Newport this fall; you remember don't you, Mr. Secretary, that he said it soared high up into the clouds, that the mountain on which it was situated rivaled the highest peak in the Alps; and that he said in addition that Mount McKinley was not a circumstance to it when it came to cloud climbing? Well he just would not let me go to that famous hostelry until I had broken bread with him: to have done otherwise would not have been W. W. Anderson, so he kindly took me in and gave me a splendid dinner presided over by his accomplished sister. After the meal was over he hustled me into an auto and seated with him and my good brother Stine after a hearty hand shake from another of the same kind of the best of men, Dr. Phythian, we almost flew to the place of refuge for the Kentucky State Medical Association next fall. There we found an ideal summer resort, almost if not really equal to the famous Adirondaeks or the points of the world wide Virginia and West Virginia mountain watering places to which the elite are prone to wander when the Sun gets perpendicular over our heads. The "Blue Grass Inn" is in the midst of the mountains minus the brush—hilly as hilly can well be while at the same time it is surrounded with blue grass and a beautiful woodland: a great treat

to the city doctor where he can be wafted to quiet slumber by the music of the hooting owl and nightingale untouched by misquitoes and flies. To the country physician it will be an entire change of scenery and he will escape the hum and hustle of the city with its ever rattling street cars and many other things to chase dame sleep away. The house is grand, a beautiful structure with capacious halls, porches and three or four dining rooms: if you don't like the looks of one you can take another: in fact if you don't care for any on the first floor or the Grill room in the basement you can take one up in the tree for we actually saw a table, a sure enough table with legs and body made of plank resting quietly on the limbs of a stately oak quite a distance from the ground. No noise there to disturb the quiet of discussion or other distractions where even the clarion and lion-like laugh of a "Herman" can not long remain on account of the rolling, frolicking incline of the voice in this beautiful mountain land. But ten minutes street car run to Cincinnati if you like but from what I saw you need not leave the ground for something to cut the dust or cobwebbs from your throat or so much as to fight an imaginary snake (for all that have ever been known there are but imaginary ones) for ample provision has been made for all such contingencies. From what I saw that dismal winter day I can't imagine a more appropriate or ideal spot within the confines of our beloved Commonwealth at which we could possibly assemble for our annual pow wow next fall. So boys let your only thought be "On to Newport with our wives, sweethearts and selves" when the time comes for the meeting and my word for it all will be well so far as the place of meeting goes.

Yours truly,

I. A. SHIRLEY.

TUBERCULOSIS.

A few months ago the Campbell-Kenton Medical Society offered a prize to the scholar of the High School for the best paper on tuberculosis. The first prize was awarded to Walter Binder, of the Junior Class. It is so good that we reproduce it here:

"My arm is most mighty.
I spare none, rich and poor, young and old,
 alike they fall in my path.
My fingers are small put powerful.
The flies and mosquitoes are my helpers.
I thrive in filth and unclean places.
I live in exposed milk and food.
I float in the water of rivers.
I fly in the air.
I am unseen but terrible.
I am a fiend, torturing my victims slowly to death.
I attack the weakest first.
I besiege the lungs and throat.
I am in the food you eat, in the water you drink, in the dust you breathe.
I hate the sunlight.
Fresh air is my deadliest enemy.
Doctors are my ruin.
Pure water is poison to me.
If these are not used, I will glory,
I will regain my former strength,
I will conquer the earth,
I am TUBERCULOSIS.

SCIENTIFIC EDITORIALS.

TELEPATHY.

Can the soul or the mind or the body travel through the limitless spaces of the air and the earth and produce in a far distant human being these peculiar feelings, or experiencings of sensations, that we call Mental Telepathy? Where telepathy is spoken of in the unscientific manner, and often with undue levity, the speaker does not seem to realize that in the true meaning of the Greek word, *tele*, a far off, and *pathos*, in sympathy with, but suffering conveys an entirely different idea from that generally understood by the average layman. Is there such a thing as Mental Telepathy? Weighed in the cold scales of science and measured by the world of materialistic manifestations, we would be compelled to come to the conclusion that no such thing really exists as mental telepathy.

"Horatio says, tis but our phantasy
And will not let belief take hold of him
Touching this dreaded sight twice seen by us."
—(Hamlet, Act I, Scene I.)

There have appeared within the recent year a number of articles upon this subject and others touching more or less upon it, but probably the most interesting discussion that has

taken place in a long time concerning thought-transference appeared in *Bedrock* (London, September) under the title "The Truth About Telepathy." In this a "business man" contributed his experience in connection with an offer he had made of \$5,000 for satisfactory proofs of mental telepathy. The "juicy peach" remains still unclaimed and is likely, in the opinion of the reviewer, to remain securely out of reach of even such distinguished investigators as those that comprise the "Society for Psychical Research." We quote from the *Literary Digest* the following interesting discussion between Sir Oliver Lodge, Principal of Manchester University and the "Business Man."

"I do not know what evidence there may be of 'wagers'; but let me ask, in all seriousness, what are the reasons for making the defamatory statements which I have put into italics? They certainly are not true, if intended to refer to a ease I have in mind; and they are unworthy of the Man or Science to whom, in all good faith, liberal payment was offered for particulars supposed to be available, but which he failed to supply. He had often declared that, to him, telepathy is 'perfectly clear and certain'; and nobody ought to doubt the sincerity of Sir Oliver Lodge's belief; but, requiring facts and not beliefs, I waded through volumes of 'records' to which he had referred me, and worked back to his first experiment with a square and a cross, as described by him in a letter to the editor of *Nature*, dated June 12, 1884. Being unable to find anything but statements that would not bear to be looked into carefully, or accounts of phenomena that had occurred under conditions in which trickery was always possible, I prest Sir Oliver Lodge for definite information, and finally got from him this gem:

"I am surprised that you imagine that incontrovertible evidence can be obtained at all in an inductive problem."

"After writing to many others, I caused the following advertisement to be inserted in *The Times* for several days in August, 1911:

"TELEPATHY"

"The sum of £1,000 has, during the past six months, been offered privately to the leading authorities and writers of repute on this subject for satisfactory proofs of so-called thought-transference, but not one single case could be found; and it has now been decided to advertise publicly for the particulars required. Persons applying to the undersigned are requested to name their own terms for evidence that will stand cross-examination, and to state whether or not their communications are to be treated as confidential, MATTHEW JARVIS, Solicitor, 4, Finsbury Square, E. C."

"There is no suggestion of 'wagers in the

above—only a plain statement of fact and a request that persons shall name their own terms; but, though the replies were too numerous to acknowledge the receipt of separately no evidence could be obtained. The advertisement was copied into many foreign and colonial newspapers, so that dupes all over the world were put on their guard against believing something that might not be true.

“Remembering that Sir. Oliver Lodge had specially vouched for the movements of a chair in the moonlight, on one occasion when he had tried to control a female medium for hours at a stretch, I next proceeded to arrange for the payment of £5,000 to any one who could perform or prove a case of levitation; and, on my informing Sir Oliver Lodge of this, he wrote: ‘To me these offers of money seem quite preposterous and never likely to obtain anything at all.’” So I took this as an indication that he was again unable to produce any proof. But, supposing I offered him a large fee for writing a book on some mental incursion into the realms of the unverifiable, would there be, in such an offer, anything objectionable to which a deaf and contemptuous ear should be ever turned; or would it be readily accepted by the Man of Science acting for the time being as a business man?

“It now appears strange to me that present-day members of the S. P. R. should attach any importance whatever to opinions and expressions of belief, instead of trying to prove facts. Perhaps they do not consider that there is any credit in believing what is merely true—because any fool can do that—and they find comfort in the Bergson-Lodge philosophy which has become fashionable because it is so ‘scientific’! You start by accepting something which may or may not be true, but which is highly improbable and has not been proved; and, on such a want of basis, you build up your system—making everything as obscure as possible in order that it may seem profound.

“I can give an amusing instance of how some members of the S. P. R. can be brought ‘to heel,’ for when I approached Sir W. F. Barrett (whom I take this opportunity of again thanking for his kind promise of help), he was very keen to assist me in finding a case of telepathy; and he was good enough to offer to call upon me the next time he came over to England from Dublin. He made no objection to being paid £1,000 for proofs, and his letters show that he was genuinely anxious to be of use in the matter; but, after seeing Sir Oliver Lodge in London, Sir. W. F. Barrett wrote to me:

“‘I could not undertake to prove the re-

sults of a long and difficult investigation to order or for a pecuniary offer.’

“My reply was to point out that I had not asked for any long investigation, but that I merely wanted one single case of telepathy, which he, as its father or discoverer, thirty or more years ago, ought to have no difficulty in finding for me. I never got one, however, nor did I have any better luck with Sir William Crookes, who was too busy with other scientific work to help me.

“I have no desire to advertise myself; and my name need not appear, though it is known to Sir William Crookes, Sir Oliver Lodge, and many others who are interested in this matter; but I shall be happy to place at their disposal all the information I have collected and to assist, as a business man, in getting at the facts. These, so far as they go, certainly confirm the statement of Sir Ray Lankester, on page 66 of the April number of *Bedrocks* ‘I say that Sir Oliver Lodge and his associates have not (in answer to the question “Does telepathy exist?”) given any demonstration of its existence nor even any evidence which makes its existence probable.’”

To the thoughtful and reflecting individual and without the slightest reflection upon the interesting work that is being done along these lines, the reviewer is constrained to believe that the “business man” is the “better bet.” Personally we have heard of some extremely interesting incidents connected with what was supposed to be thought-transference, but were never able to satisfy our somewhat materialistic attitude with the proofs that were adduced. To those, who have been most deeply concerned in these beliefs, we are inclined when they become angry at the request for proof to refer them to the well known lines, to express their feelings:

“We do it wrong, being so majestical,
To offer it the show of violence;
For it is, as the air, invulnerable
And our vain blows, malicious mockery.”

—(Hamlet, Act I, Scene I.)

Nor do we believe that in this materialistic world of ours, thoughts and sensations arising from a materialistic or non-materialistic body can enter space and like some pale ghost traverse almost limitless space and make definite endo-sensory impressions upon another individual. It is indeed unreal, unpractical, ghost like and makes us exclaim:

“What may this mean
That thou, dead corpse, again in complete
steel

Re-visits thus, the glimpses of the moon
Making night hideous and we fools of nature
So horrible to shake our disposition
With thoughts beyond the reaches of our
souls.”

—(Hamlet, Act I, Scene IV.)

Perhaps our position is rank heresy, but still weighed in the balance, the record lacks convincing materialistic proof of something that is absolutely against all known scientific laws. We will admit that it does not necessarily fail, because it does not conform to present known scientific laws, but there is no special evidence to justify our acceptance of mental telepathy as an established fact.

We are well wishers to all investigators. Perhaps it is early yet to expect results. What we want is not doctrine, theory or belief but facts. In the absence of facts, *demonstrable* facts, we believe that scientific skepticism is justifiable and that the attitude to be assumed is only of cordial well wishing to the investigators and a receptive state of mind for any real demonstrable results. From our standpoint we are inclined to believe that as yet the pole is not long enough to reach that \$5,000 persimmon.

The latest position assumed by our most estimable contemporary, Sir Oliver Lodge does not, and we say this with the most profound and unqualified respect, seem to us to clear the field by any means. We quote from the *Mobile Times* as follows:

"The possible existence of consciousness apart from brain (however obviously consciousness requires brain to manifest itself here and now) is not a phenomenon at all, but a hypothesis—one that I spoke of as eminently debatable, though I admitted that it was the working hypothesis to which I have been myself led by long continued study of a considerable range of obscure psychical facts. Such a hypothesis does not rest solely on the occurrence of simple telepathy, on which the present discussion hinges; it is sustained by a good deal more.

"The experimentally observed fact immediately under consideration is the transference of thought or mental impression between a few living people, i. e., between such as have the faculty sufficiently developed, without the use of their normal sense organs, the conditions of transfer being not yet known. But what the explanation of this fact may be is an open question. It may possibly be due to brain waves, or some kind of syntonic material or ethereal connection between brains; for, though I think that unlikely, it is what some people have suggested and provisionally hold, finding in it an obvious analogy with wireless telegraphy; and if that can be proved to be the explanation no question of consciousness apart from brain need arise, i. e., no such hypothesis would in that case be necessary to account for ample telepathy.

"The process would then take its place as an extension of, or addition to the already known methods of transmitting thought—speech,

writing, gesture, code signalling, etc. Some of these methods would seem mysterious to a savage, just as we are unacquainted with the mechanism of the process. On anything beyond affirming the bare fact I have been careful not to dogmatize, though I myself am inclined to maintain that telepathy is not a physical process, *pari passu* with the other or long known methods of communication, but is a sign or incipient outcome of a faculty and a method essentially different.

"But whether incipiently widespread or not, and however it be explained, the faculty of telepathic receptivity certainly exists in a few people, though even in them it is by no means always and under all circumstances available. In that respect it differs from an inorganic property like radio-activity—though that, too, appears limited to a few substances and is not conspicuous or widespread.

"It is sometimes said—Sir Bryan Dakin either says or clearly implies—that the existence of telepathy would contradict established knowledge. If that were true, it would indeed be an absurdity, but telepathy does nothing of the kind; it enlarges and expands, it opens up a new chapter, but it does not contradict. By psychical research our knowledge of fact is supplemented, but in no other way changed. The unwelcome facts will fit into the coherent scheme of science in due course, and will displace nothing already there, though they will remove some mistaken accretions—the beginnings of a premature fence or boundary.

"To sum up. Any one who limits his range of inquiry to the general categories of already acquired knowledge has a sufficiently rich and extensive field, and, by surrounding himself with a definite boundary, is in a very strong position. Entrenched in such a fortress, Sir Ray Lankester and those who think with him look with pitying eyes on us, who, after some exploration inside, have ventured outside the walls, and they regard with contempt any assertions as to what lies beyond the pale. They are like the orthodox mariners of old who limited themselves to the shores of the Mediterranean, cruising round its coasts and gradually becoming familiar with every port. The world as known to the ancients was their domain, and it was impious to sail out through the Pillars of Hercules into the ocean beyond. Venturesome explorers who transgressed those limits and from time to time returned with legends of times and other unusual phenomena were doubtless received with disapprobation and incredulity, still more so if they ventured to deduce the possible existence of a new continent, which as yet confessedly they had not reached, from evidences derived from drifting logs and a Sargasso Sea.

"Meanwhile, we are accused of lying, of

megalomania, of folly and of madness. Let it be so. I for one am in no hurry. I am not sorry that the present state of ignorance and prejudice surrounding this subject in the minds of a large number of scientific men in the year 1913 should be put on record, lamentable though it be, else posterity, familiar with a mass of developed knowledge, will hardly credit the curious obstruction which pioneers in this domain still have to encounter. Secure in the progress of the human race, we shall bide our time, cultivate our gardens and pass on before any wealth of fruits can be gathered in."

CURRAN POPE.

THE RESPIRATORY TRACT IN LEUCEMIA.

Dr. J. Safranel assistant to Prof. Onodi, of Budapest, has recently published an exhaustive article dealing with the pathological changes occurring in the upper respiratory tract in cases of leucaemia. He had occasion to examine 32 cases of leucemia all but one of which had applied to the medical clinic for general treatment, the one case having applied for throat treatment to the laryngological clinic. All forms of leucemia were seen, ten cases representing the lymphatic variety and twenty-two the myeloid form. He also observed several cases of pseudoleucemia.

The most pronounced changes in the upper respiratory tract were observed in the lymphatic cases in which the blood picture showed a great increase in the lymphocytes and lymphoblasts, and in which there was considerable enlargement of the lymphatic glands and the spleen.

Although the typical hyperplasia of high degree was most pronounced in the lymphoid tissue it was frequently observed in organs and tissues which normally contained no lymphoid cells. In the respiratory tract the cell invasion was most pronounced in the lymphatic tissue of the mouth and pharynx, viz: the pharyngeal, faucial and lingual tonsils, and in the uvula, the epiglottis and posterior wall of the pharynx. Histologically the lymphoid infiltration appears as closely crowded lymphoid cells, which displace the normal structures. The cells reach the capillaries but often leave the veins by passing through their walls to invade the epithelial tissue, the submucous layers and even the deeper structures, as the fatty and muscular tissues.

In the tonsils they pass through the fibrous capsule into the surrounding muscle and fatty structures. They have even been found invading cartilage of the larynx by passing through the perichonrium.

In the myeloid variety the blood contains many myeloid cells most polymorphonuclear neutrophile cells, myelocytes and myeloblast.

Eosinophiles and basophile cells are constantly increased in this form of leucemia. The bone marrow always shows characteristic changes, and the spleen, liver and lymphatic glands nearly always show considerable enlargement.

Clinically the cases were all characterized by progressively increasing anemia, emaciation, dyspnoea, digestive derangement, etc., indicating circulatory disturbances.

The symptoms referable to the upper respiratory tract were epistaxis, dyspnea, enlargement of the glands of neck and axilla.

Epistaxis should be classed with the cardinal symptoms of leucemia. It may occur at any stage of the disease and is often the first symptom to call attention to the disease. The point of bleeding is usually the nasal septum, where reddish or greyish yellow areas of infiltration are frequently visible. In some cases such areas are not visible, the entire nasal mucous membrane appearing very pale and waxy. In the cases presenting areas of infiltration necrotic and ulceration is not infrequent. Conditions similar to those occurring in the nose are also seen in the mucous membrane of the throat.

However the most characteristic change in the throat seen in leucemia is the lymphatic hyperplasia of the structures of Waldeyer's ring—especially in the faucial tonsils. The tonsils at times take on large dimensions, so that cases have been seen where the two glands overlap each other and impede respiration. In some cases the tonsils may be smaller and the faucial pillars, the uvula and the mucous membrane of the posterior pharyngeal wall become so infiltrated with cells that they reach several times their normal thickness.

The lingual tonsil may also become much enlarged. The enlarged lymphatic structures are all pale, of a yellowish gray color. Although leucemia occurs principally after middle age, it does occur in children, and it may readily be understood how the lymphatic enlargement of leucemia may be mistaken for a simple hypertrophy of the faucial and pharyngeal tonsil.

Zarmike, Burges and others have reported cases of mistaken identity where the children were subjected to operation and in whom death resulted from inability to stop the bleeding.

The enlargement of the submaxillary cervical glands, the pale waxy mucous membrane and the pallor of the skin should always be looked upon with suspicion and should at least lead to a blood examination before resorting to removal of tonsils.

In some cases the lymphatic hyperplasia is not limited to the lymphatic structures, but appears as a diffuse infiltration of the entire mucous membrane of the upper respiratory

tract—bringing about dysphasia and dyspnoea.

The lymphocytes become so crowded in the submucous tissue that they finally infiltrate the epithelial covering of the mucous membrane. This becomes thinner, and thinner and finally breaks. At such points as well as at mechanically abraded areas infection takes place and ulceration follows. Similar infiltration of the larynx may give rise to serious symptoms, as any portion of it can be involved in the process. It occurs there either in small circumscribed raised areas (nodules) or as a diffuse swelling of the membrane which may become so pronounced that it covers the false cords and epiglottis and interferes considerably with breathing.

Fortunately ulceration is less frequent in the larynx than in the pharynx and mouth. Hoarseness may result from the infiltration interfering with muscular contraction and proper approximation of the cords. It may also result from pressure of enlarged peritracheal mediastinal and peribronchial glands on the trachea causing stenosis. This stenosis has been so pronounced that tracheotomy had to be resorted to to prevent asphyxiation.

Stenosis of the trachea also occurs in anemia at times from the infiltration of the mucous membrane.

Although the changes in the mucous membrane of the upper respiratory tract are most pronounced in the lymphatic form of leucemia the myeloid form of the disease frequently presents similar conditions. The waxy pallor of the mucous membrane is nearly always noted. Swelling of the mucous membrane is less frequent. Hemorrhages are quite common in the myeloid form, due to cell growth in the blood vessels and destruction of their walls. The hemorrhages occur mostly from the nasal mucous membrane and have frequently led to a diagnosis of leucemia that had not been suspected. Later in the course of the disease the spleen and the lymphatic glands enlarge.

Regarding the cases of pseudo-leucemia, under which head the author places Hodgkin's disease, a leucemic lymphadenosis and lympho-sarcoma, it is pointed out that though they may present similar enlargement of the lymphatic structure as do the cases of leucemia, but that they can be differentiated by the blood picture, the blood in pseudoleucemia showing a normal blood count.

ADOLPH O. PFINGST.

HYPERTHYROIDISM.

As a result of the advances in our knowledge of the causation, and treatment of disease, surgery has made tremendous inroads upon the practice of medicine. Many of the most serious of diseases formerly considered medical have been transferred to the surgical side.

One of the most recent to be so transferred is that group represented by changes in the thyroid gland. This gland is the most accessible of the ductless glands, and is unquestionably the most important and interesting. Its importance is abundantly attested by its tremendous blood supply for such a small organ. This supply is equal to, and derived from, the same sources as the circle of Willis which supplies the brain. This fact alone is sufficient to indicate that this small gland, weighing one to two ounces, has a most important function in the animal economy. Furthermore, if this gland is absent at birth, or is completely removed afterward, development both mental and physical is retarded, and death finally results.

Interest has centered around the thyroid secretion and the questions, What is it? How does it leave the gland? and What function has it? are only partially answered. These partial answers are that it is a combination of iodine with globulin called iodothyron. That there are short lymph spaces in the thyroid that empty into the veins, and through these the iodothyron probably reaches the circulation. Its function is intimately connected with the function of the sex glands. In the female the thyroid undergoes physiologic enlargement at puberty, and during menstruation and pregnancy, and in some of the lower forms of animal life it is connected with the genital tract by a distinct duct. Certain of the toxæmias of pregnancy are thought to be due to a lack of thyroid secretion and have been treated, especially vomiting of pregnancy, by the administration of thyroid extract. Iodothyron is a vaso dilator and seems to occupy an antagonistic position to adrenalin, the action of the one counteracting in the organism that of the other.

Up to the latter part of the last century exophthalmic goitre was looked upon as a medical disease, except in rare instances. The conception of its etiology was very vague. Disease of the central nervous system; of the vasomotor nerves; of the sympathetic nerves, especially of the lower cervical ganglia; and a general neurosis, were some of the theories brought forward to explain the three cardinal symptoms of tachycardia, exophthalmos and enlargement of the thyroid gland.

Moebius in 1886 was the pioneer of our present views of the causation of this disease. He maintained that the normal amount of thy-

roid secretion was essential to the proper physical and mental development of the individual. A reduced amount, or hypothyroidism resulted in imbecility, cretinism and myxoedema. A much increased amount, or hyperthyroidism, caused the disease known as exophthalmic goitre, (Graves's or Basedow's disease). That the absorption of an abnormal amount of thyroid secretion acted as an irritant poison, likened to alcohol. That this poison caused rapid action of the heart; dilated the peripheral blood vessels causing flushing of the skin and sweating; dilated the bloodvessels back of the eye and caused an increased production of fat in that locality thus producing the exophthalmos. The increased number of thyroid cells plus dilatation of the blood vessels of the thyroid gland resulted in the goitre.

The prolonged action of this poison resulted in degeneration of the liver, kidneys and heart muscle.

Wilson of the Mayo Clinic has been able to trace a direct connection between the severity of symptoms in hyperthyroidism and the increase in the number of functioning cells of the thyroid gland. In fact he has been able in 85 per cent. of cases, to take a pathological specimen of thyroid gland and state with a marked degree of accuracy, the symptomatology of the case.

The surgical treatment of this disease is based upon Moebius theory, the object being to reduce the amount of thyroid secretion absorbed into the system of the patient. Injection of boiling water into the gland, ligation of part of blood supply, and resection of a portion of the gland are the three surgical procedures resorted to.

Injection of boiling water and ligation of one or both superior thyroid arteries and veins are valuable procedures in cases with severe intoxication in which a thyroidectomy would be very dangerous. Either can be done under local anaesthesia. C. H. Mayo, who has had an enormous experience in the treatment of these cases, states that ligation almost uniformly results in marked improvement in these severe cases. The average gain in weight in a series of cases was 22 pounds in four months, at which time they became favorable cases for thyroidectomy. Thyroidectomy is the operation of choice, and shows a mortality of 1 to 2 per cent in skilled hands. The end results are 75 per cent. of cures with improvement in the others who survive. One lobe and the isthmus is usually removed, though the exact amount is a matter of judgment with the operating surgeon. A certain percentage of these cases later develop renewed symptoms of hyperthyroidism, due either to the removal of too little of the

gland or to subsequent hypertrophy of the remaining portion. These cases should be reoperated and more gland removed.

F. H. MONTGOMERY.

WHAT IS THE ETIOLOGY OF PSORIASIS?

In the research studies on the cause of psoriasis under the direction of J. F. Schamberg, at the dermatological research laboratories of the Philadelphia Polyclinic and College for Graduates of Medicine, Auspitz's remark was quoted as final "was psoriasis ist, weiss bis heute noch kein Mensch"—what psoriasis is, no man at present knows.

In the final report the research committee had to acknowledge, that though the symptomatology, histopathology, diagnosis and course are known, yet the cause is unknown, as it was two thousand years ago.

The research for the etiology of psoriasis was made from two standpoints: (1) bacteriological, (2) metabolic.

From the bacteriological standpoint of view several possibilities were considered: If parasitic, (a) the disease may be due to the implantation upon the skin of an exogenous parasite, as is observed in ringworm, favus and tinea versicolor. Such an organism has hitherto not been found, but might be discoverable by the use of the ultramicroscope or by some new technique. (b) The disease might be caused by one of the common facultative organisms belonging to the group of cocci, so readily cultivable from the skin, in individuals in whom the soil is rendered favorable by some special condition. (c) The disease might be the result of the circulation in the fluids of the body and deposition in the skin of a microparasite, analogous to what is observed in syphilis and variola.

With all the methods, new and old, no special parasite was found and the results were inconclusive.

Theories which hold disturbances of metabolism responsible for psoriasis were investigated. The following conclusions were made by the investigators:

- (1) That these patients possess a strong tendency to store nitrogen.
- (2) That the nitrogen is stored with great ease.
- (3) That on a low protein diet the patients may eliminate extraordinarily small quantities of nitrogen in their urine.
- (4) That a low protein diet has a distinct and a remarkably beneficial influence on the course of the psoriasis.
- (5) That very large quantities of nitrogen may be lost through the skin in the form of scales.

(6) That on a high protein diet, tremendous quantities of nitrogen may be retained in the system.

(7) That a high protein diet, although it did not bring about a relapse in a case where the active process had been checked, did stimulate very considerably the course of the existing psoriasis in active form.

(8) That the retention of nitrogen is not always associated with a corresponding gain in body weight.

These metabolic conclusions were made from the historical characteristics of psoriasis, in the rapid growth and proliferation of the epithelial cells of the skin. For their growth and life, these cells require building material which can be obtained only from one source—the blood and lymph streams. The principal building material required by these cells is protein. A high protein diet therefore stimulates their growth, because it provides all the necessary components of the epithelial cells. By keeping the patient on a low protein diet, we bring about a condition in which no extra protein can be supplied to the rapidly multiplying cells of the skin, and this condition therefore would retard the progress of the disease.

Though no criticism can be offered on the result of such good work as has been done under the directorship of Schamberg, yet, no definite results as to the real etiology of psoriasis could be found, neither from bacteriological nor metabolic standpoints. We are today just as ignorant as to the real etiology of psoriasis as we were years ago; but let us not get discouraged, but go investigating until we do find the cause.

To my mind, the etiology of psoriasis is due to incomplete metabolism causing the symptom-complex known as psoriasis. Careful, rational and patient treatment does cause amelioration of the most apparent phases of this disease.

M. L. RAVITCH.

Exophthalmic Goiter.—Stern gives an interesting review of the experience to date with the serum of thyroidectomized animals in exophthalmic goiter and relates its successful application, supplemented by a Naureim course of carbonated baths, in three cases, two very severe. The patients were women of 29 and 51, and the exophthalmic goiter had resisted all other treatment. In the oldest patient a course of baths the year before had been ineffectual, but this year, supplemented by the serotherapy, remarkable improvement was realized. The much dilated left ventricle subsided to normal size in all the cases. The circumference of the neck grew smaller by 1.5, 2 and 2.5 cm. By commencing with small doses it is possible to improve without by-effects.

ORIGINAL ARTICLES

SYMPOSIUM ON DISEASES OF THE NASAL ACCESSORY SINUSES

DISEASES AND PATHOLOGY OF NASAL ACCESSORY SINUSES.*

By ERNEST RAU, Bowling Green.

I don't believe that the inflammations and infections of the nasal accessory sinuses very often get the recognition and treatment that they deserve. Especially is this true of the frontal sinuses. In the fall and winter of 1909 there was more grippe and so-called bad colds than common, and a good deal of frontal sinus infection followed. On account of there being no pus present or symptoms referable to the nose a great many of these cases were treated as neuralgia, etc. On inspecting the nares the middle turbinate would be found swollen, and tender, completely blocking off the frontal sinus. The pain being due not so much to the infection, as to interference with circulation of air causing a negative pressure within the sinus, with consequent swelling of mucous membrane, and congestion of blood vessels, and irritation of nerves.

A great many theories have been advanced as to why we should have the accessory sinuses at all. Most all seem to agree that they have to do with olfaction. It seems that certain of the lower animals with keen sense of smell have accessory olfactory ridges situated in the frontal, sphenoid, and maxillary sinuses. That by evenly distributing the inspired air in the olfactory region they aid in that sense.

It has also been advanced that by lightening the bones of the skull that proper balance is maintained, also as an adjunct to respiration, moistening the inspired air. From their location it would seem that they would be continually infected, and yet as a matter of fact it is comparatively rare, when you consider that at every inspiration bacteria are carried into them. At first thought it would seem as though, especially in the case of the maxillary sinus, that the construction for drainage was not up-to-date, the ostium being considerably higher than the floor. However it has been demonstrated at autopsy several times that subjects with normal sinuses that had not been dead over two hours, that the frontal and the maxillary sinuses were without exception sterile. This is not because bacteria do not get into them, for the nasal sinuses are aërated during every respiration, but because they are protected against such an invasion by ciliated

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epithelium, the cilia constantly escorting the bacteria towards the ostia, and the mucous glands of these sinuses have a secretion that is germicidal in power. The diseases of the sinuses are the same as those which may attack the mucous membrane of the nose. But especially regarding the maxillary sinus, it is more prone to chronic inflammation and formation of cheesy masses, etc., on account of the location of its ostium.

Of the bacteria most often found as a causative factor, it has been claimed that the influenza bacillus holds first rank, the pneumococcus next, staphylococcus pyogenes aureus and albus, and the streptococcus pyogenes. It is doubtful whether a pure culture will be found except in the beginning, for after the defenses are broken down it is only a matter of a short while until it is a mixed infection. It has been claimed by some authors that in every case of influenza that the sinuses become infected some time during its course.

Whether they enter directly through the nasal passages and ostia of sinuses or whether they find their way through the blood stream has not fully been determined. Some also are of the opinion that the sinus infection is a sequelae rather than a complication.

It would seem that there is no longer any question that in the acute diseases of the inferior air passages that the nasal sinuses become infected. In croupous pneumonia bacteriological examination of sinuses of those dying of this disease have always shown cultures of the pneumococcus. In diphtheria examination of the sinuses show the presence of Klebs-Loeffler bacillus. Pearce demonstrated inflammatory sinus changes in 25 out of 39 post-mortems, and in the maxillary sinus especially he found the bacillus on both sides in all but three cases. There seems little doubt also but that in erysipelas that the sinuses are very often affected. The sinus affections in these four diseases takes the character of the primary disease, while in the other infectious diseases that are followed by sinus affections, are principally due to other bacteria than those causing the original trouble.

The pathological changes that take place in these cases of infections and inflammations of the sinuses depend upon several conditions, viz: virulence of attacking germs; the length of time that the disease has been present; the amount of resistance the sinus has to inflammation, and the condition of drainage system.

The maxillary sinus, on account of the location of its ostium, shows the greatest pathological changes, as the mucous membrane at the lowest point is constantly bathed in purulent secretion. This will account for the

presence of cheesy, fetid pus that is so frequently found in these old chronic cases of the maxillary sinus, regardless of cause. For matters of description it is best that these conditions be considered under a general head of acute and chronic.

On the mucous membrane becoming infected, there results an intense hyperaemia and swelling due to an outpouring of serum into the sub-mucous connective tissue, which may be of sufficient quantity to completely close the lumen of the sinus.

This swelling naturally crowds the cilia together and interferes with their motion, and may become so great as to stop their motion altogether. No secretion is formed at this stage, because the lining membrane has not been penetrated by the exudate. Oedema follows this stage on account of pressure upon the blood vessels. Owing to the cilia having become motionless the mucosa is no longer able to throw off the secretion forming in the glands. This inflammatory exudate is composed of serum, mucus, leucocytes and exfoliated epithelium. Bacteria may or may not be present. Resolution may set in at this time with lessening of hyperaemia and oedematous swelling. The cilia gradually regain their motion, and the secretion may cease entirely or assume a mucoid or serous muco-purulent character, then watery, gradually returning to normal. The inflammation, however, may continue and become chronic.

Chronic sinus inflammation presents two distinct types, viz: Hyperplastic and ulcerative. In the hyperplastic type the mucous membrane is of a whitish-grayish color, more or less loosened from the bone, often wrinkled and papillomatous. Hyperaemia may be present, but not so prominent as in the acute stages.

The connective tissue is considerably thickened and retention cysts often occur from constriction of the necks of the glands. Small areas of metamorphosis of ciliated epithelium pavement occur. The ulcerative type is claimed by some to be just an ulceration in the hyperplastic. Owing to the fact that the third layer of the mucosa is so intimately blended with the periosteum, the bone very often becomes affected, and were it not for the collateral circulation through the sinus walls this would happen much more frequently.

The Blood-Pressure and the Cholesterin Content.—Cantieri's comprehensive research failed to show any direct connection between an abnormally high blood-pressure and the cholesterin content of the blood. With nephritis there is generally an excess of cholesterin in the blood, even in cases with normal or subnormal blood-pressure.

SYMPTOMS AND DIAGNOSIS OF DISEASES OF THE NASAL ACCESSORY SINUSES.*

By S. G. DABNEY, Louisville.

Development. The maxillary antrum in the newborn child is miniature in size and is situated to the inner side of, instead of beneath the orbit; it acquires its permanent shape about the 12th and its full size about the 18th year. The frontal sinus appears as a separate cavity about the 9th year and attains its full development by the 20th. The ethmoid development begins about the 4th year and advances simultaneously with the frontal. There appears to be a great variation in the appearance and growth of the sphenoid; it probably begins about the 3rd year and attains its full size at maturity.

Bacteriology. Bacterial examination does not offer great aid in sinus diagnosis; in purulent cases any of the pus producing organisms may be found and in chronic cases several varieties are usually present.

Preceding History. The history of the case is sometimes of value in diagnosis; in a certain number dental disease may arouse suspicion of inflammation of the maxillary antrum; in others a preceding infectious illness, especially influenza, is important. Naturally acute rhinitis or habitual nasal obstruction is common and occasionally a preceding traumatism of perhaps violent vomiting may play a part.

General Symptoms. In addition to the symptoms dependent on long continued or frequently recurring pain such as insomnia, anaemia and irritability, we often find vertigo especially in frontal suppuration.

Before considering purulent inflammation of the sinuses, to which, I take it, this symposium is chiefly devoted, a few words may be said in regard to some non-purulent affections.

Acute Catarrhal Inflammation, with its headache, hebetude and fullness is too familiar an attendant of acute rhinitis to require extended description. Probably neglect of this condition and errors in the mode of life during its existence sometimes results in purulent disease.

Mucocoele generally involves the frontal and ethmoidal sinuses. The swelling in the orbital region, sometimes displacing the eye and causing diplopia, is the first and often the only symptom; hence the oculist is usually consulted. The growth is slow and painless; the situation is to the inner side or upper portion of the orbit. Palpation reveals a soft

mass, often elastic or semifluctuating. It is liable to be confounded with an orbital tumor.

Hyperplastic Ethmoiditis, attended by multiple polypi, is the result of recurring catarrhal attacks. The subjective symptoms are a sense of tightness and obstruction about the bridge of the nose, diminution or loss of sense of smell, sometimes frequent attacks of sneezing with profuse watery discharge and lachrymation, and of chief importance, *asthma.* Asthma is most common in those cases in which the ethmoidal cells are more or less packed with fine grapes-seed like polyps. Many cases are certainly much benefited and some are cured by the removal of this nasal condition. In addition to the symptoms mentioned, we often find conjunctival irritation as well as ocular pain and asthenopia and, occasionally, there is well defined neurasthenia. Objectively, the most prominent symptom is thickening and inflammation of the middle turbinate and the presence of polyps; not very rarely, however, the polyps are not revealed until the anterior portion of the middle turbinate is removed. It is not claimed that this condition alone is responsible for nasal polypi—their association with purulent sinus disease will be discussed later.

Purulent Inflammation of Accessory Nasal Sinuses. It is well to consider first those symptoms which are common to disease of any of these sinuses, though varying greatly both in constancy and in severity, and to consider next these symptoms by which we determine which sinus or sinuses are involved.

Pain is generally severe in acute cases but often entirely absent in those of long standing. On the other hand some headaches which have long resisted both general and other local treatment have been cured by the relief of chronic sinus suppuration. Even in acute cases the pain is not always over the sinus involved; thus in maxillary inflammation the pain may be felt mainly over the brow; in disease of the frontal sinus it is usually in the forehead; in the ethmoid at the root of the nose and in the sphenoid, either at the vertex or occiput. It is characteristic of sinus pain in general and especially that from the frontal sinus that it comes on an hour or two after arising and is most severe in the forenoon. Various explanations have been given for this, but none seem to me quite satisfactory. Both the intensity and the location of the pain, however, are subject to marked variations.

Tenderness is often present in inflammation of the maxillary antrum and frontal sinus. It is usually found in acute and sometimes in chronic cases. In the examination we should be careful to avoid the supra and

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infra-orbital nerves. The two sides should always be compared. In examining the frontal sinus the tip of the little finger should be carried well into the upper inner angle of the orbit and pressure made upward and inward against the floor of the sinus, which is thinnest at this point. In the maxillary pressure should be made in the hollow of the cheek, remembering, however, that disease of a tooth or its root may cause tenderness there even when the antrum is healthy. Tenderness is a more important symptom and more frequent in disease of the frontal than of the maxillary sinus.

Discharge. As the frontal, maxillary and anterior ethmoidal cavities all empty beneath the middle turbinate anteriorly, we look to this locality for pus from them; for the same reason in inflammation of the posterior ethmoid or sphenoid sinus we expect pus in the posterior nares, trickling over the middle turbinate. The reappearance quickly of the pus after carefully wiping it away is especially significant. On the other hand the absence of pus on one or even on several examinations is no proof that purulent sinusitis does not exist, especially if the examination is made in the ordinary sitting posture. It is said that the pus from cases of nasal origin is due to anaerobic organisms and is not fetid, while that in the maxillary from dental disease is due to anaerobic organisms and is fetid. Certainly in my experience, the pus from the maxillary antrum is more likely to be fetid than that from the frontal sinus. Perhaps the fetid character is really due to defective drainage.

Subjective Offensive Odor. The perception by the patient of a disagreeable smell present in the nose is an important indication of pus in a sinus—generally in the maxillary.

Changes in nasal mucosa are chiefly found in and beneath the middle turbinate, though a deflected septum pressing against this bone and a general hypertrophic rhinitis are important causes of defective drainage. The middle turbinate is usually swollen and in acute cases, red and angry looking, while in the more chronic it is often pallid and puffy. It is not rare to find hypertrophy of the middle associated with atrophy of the inferior turbinal, and a condition of ozaena—indeed this disease is by some attributed to sinus suppuration. It is common to find polyps growing from and beneath the middle turbinate. Whether they cause or are caused by the sinus suppuration is a disputed point in rhinology.

Transillumination is of much value in diagnosing disease of the maxillary and frontal cavities. It is important that the room be dark and that the intensity of the light be under

complete control. Not only are the cheek and the infra-orbital region illuminated by the light in the mouth, but in many cases the pupil appears luminous and the patient has the perception of light. In disease the most characteristic appearance is a semicircular dark spot beneath the eye. It is claimed that this darkness is due to a thickening of the interior lining membrane, rather than to the presence of pus—a claim which is corroborated by the fact that we often find the darkness remaining even where the suppuration has long ceased. In the frontal sinus the best results are obtained, at least in my own experience, by carrying a small Tungstein light well up behind the orbital ridge as far back as possible in the upper inner portion of the orbit. This has been much more satisfactory than pressing the light, enveloped in a hood, just beneath the orbital rim, as is generally pictured in the text books. In the latter procedure the light appears to come over the bone and to make the cavity appear luminous when it is not.

The Roentgen Ray is of decided value both in outlining the sinus and in determining the question of disease in them. I have had no experience in its use in suppuration of the sphenoidal sinus but the plate and picture which I exhibit illustrate well the suppuration in the maxillary, ethmoidal and frontal sinuses, and at the same time outline the contour of these cavities, especially the frontal. Much advance has recently been made in the use of the X-ray in these diseases and I hope that this subject will be elaborate in the discussion.

External symptoms are most frequently seen in acute suppuration or in acute exacerbation of chronic suppuration. They occur, when present, in disease of the maxillary, anterior ethmoidal and frontal sinus. In the first there may be redness and swelling over the cheek; in the second, swelling at the bridge of the nose or near the inner canthus of the eye and in the third bogginess and swelling in the brow and in the upper lid. When complications arise these symptoms may be greatly accentuated.

Complications especially in the orbit and in the eye are so frequent, so important and so often the first recognized manifestation of sinus suppuration that they must be mentioned in diagnosis. Of these the most striking and probably the most common is orbital cellulitis. It occurs both in frontal and ethmoidal disease—as a matter of fact, however, these two are rarely absolutely separate, the upper ethmoidal cells being usually involved with the frontal. In orbital cellulitis the eye-

ball is pushed forward and otherwise displaced according to the direction of the pressure, there is more or less immobility; the upper lid is generally swollen and when raised diplopia is observed; there is often oedema and tenderness all around the frontal and orbital region; pain is frequently severe and sight may be interfered with by pressure on or inflammation of the optic nerve. In a youth of 18 seen not long ago, with this group of symptoms following an attack of grippe, an incision carved far back along the inner orbital wall evacuated pus from the ethmoidal cells and gave speedy relief. A second case very recently dismissed cured, is of interest from the medico-legal standpoint. A man 38 years old, without previous nasal or ocular symptoms and in excellent health, took a dinner of clam broth and several other things on the Pullman car. A few hours later he was taken with violent vomiting and a little later with purging. Next day he had severe pain and some swelling in the region of the right eye. I saw him 4 days later and found great oedema of the upper lid, brow and bridge of the nose with slight elevation of temperature and intense pain, and tenderness most marked at the upper, inner angle of the orbit. Transillumination showed the frontal on this side dark. On elevating the lid the eyeball was seen to be pushed forward and outward and diplopia was present. Operation revealed extensive disease of the frontal and ethmoidal cavities. Recovery was uneventful, but so tedious that I had two of my colleagues, see him in consultation, but without any suggestion of importance. The final result has been perfect except for a scar, without much depression. He holds the Pullman Company responsible for ptomaine poisoning and attributes his sinus disease to the violent vomiting. It is to be remembered that vomiting may be a symptom of acute frontal sinusitis, but on the other hand recent investigations have shown that vomited matter may be forced into the frontal sinus and set up inflammation there. In rare cases fronto-ethmoidal disease may cause disturbance in the ocular muscles without cellulitis. The skiagraph which I am exhibiting is taken from a lady of about 60 where the most evident symptom was ptosis of the right upper eye lid. She complained of headache, like a band running around the head from the brow. Her maxillary antrum had been opened through a tooth socket by a dental surgeon. Transillumination with the little Tungsten lamp carried far back into the upper inner part of the orbit showed the frontal of this side dark. Abundant pus was found beneath the middle turbinate, quickly returning after cleansing. Her ptosis has

been decidedly improved and her headache relieved by intranasal operation, though more radical external procedures may yet be demanded. A great variety of other ocular diseases have been attributed to the sinuses, especially the post-ethmoidal and sphenoidal; of these the most important are optic neuritis and interference in the field of vision without ophthalmoscopic abnormality.

Suppuration of the superior sinuses may lead to meningitis and brain abscess and this cause should not be overlooked on considering such affections.

Differential Diagnosis. Finally a few words as to the determination of which sinus or sinuses are involved. My already too lengthy paper demands that I be brief. In the maxillary sinus I usually first use transillumination; then look for pus beneath the middle turbinate; if found it is wiped away and the patient requested to lie on a sofa with the head hanging over, the face towards the floor and the affected side uppermost. After a few minutes, without blowing or hawking, the nose is again inspected and if pus is found beneath the middle turbinate its source is probably from the antrum of Highmore. A subjective sense of bad odor is an important aid in diagnosing this disease. Of course disease of a tooth whose roots go up toward the antrum is significant. In a certain, but I believe a small, proportion of cases, diagnosis can only be made from finding pus by intranasal puncture. We must remember that pus in the antrum may have simply gravitated there from the upper sinuses and may not indicate antral suppuration. The presence of pus in the frontal sinus is determined by the tenderness above described, by transillumination, by a radiogram, and by pus beneath the middle turbinate which returns after wiping away, with the head in the upright or slightly inclined position. Suppuration in the anterior ethmoidal cells is rarely found without disease of the adjacent cavities. It is usually visible after resection of the middle turbinate and opening the ethmoid. Pus in the posterior ethmoidal and sphenoidal sinuses is diagnosed by the presence of pus at the root of the posterior nares or trickling down the naso-pharyngeal wall, by radiogram, by deep-seated headache usually at the vertex or occiput and finally by opening these cavities after removing the posterior portion of the middle turbinate.

Vomiting.—Treatment.—In a number of instances vomiting can be immediately arrested by means of the pyloric reflex of dilatation, which consists of pressure or concussion of the fifth dorsal spine.—Abrams.

TREATMENT OF DISEASES OF THE
NASAL ACCESSORY SINUSES—
SURGICALLY AND OTHER-
WISE.*

By J. A. AND W. S. STUCKY, Lexington.

Because of the seriousness and danger to life and health from absorption of septic material, the obscurity and misleading nature of symptoms as given by the patient, the care and difficulty in arriving at a correct diagnosis, the close proximity to vital structures and the extreme care and accuracy required to successfully remove and treat, surgically or otherwise, the cause of the disease and establish and maintain unobstructed drainage;—all this gives the surgery of these sinuses a prominent place in the thoughts of the rhinologist.

This subject is also becoming of increased interest to the general surgeon and practitioner because of the number of systemic and local troubles emanating from these sources.

In this brief paper no attempt will be made to describe in detail the various intra and extra-nasal operations for relief of accessory sinus diseases, as large text books have been written on this subject alone and the operative technique fully described: but a few methods, especially in regard to post-operative treatment, that we have found to be of value will be given, and we hope more fully discussed. The diagnosis having been fully established, the treatment to be instituted is dependent upon several factors—the stage of the disease, whether acute, subacute or chronic, and the severity of the symptoms, both local and general, but in all cases the one important point is to create and maintain unobstructed drainage of all sinuses, and to look carefully after the general systemic condition.

In cases of acute sinusitis, we usually find the entire nasal mucosa swollen and inflamed and the sinuses, especially frontal and ethmoid, completely blocked, causing a negative pressure within the sinuses and a resulting pain and depression of a severe degree. In this type of cases systemic treatment is just as important as local treatment. Free purgation with large doses of calomel, followed in 6 to 8 hours by castor oil or salts is the first step in the treatment and a restricted diet urged. The local treatment consists in shrinking with cocaine and adrenalin, the area around the middle turbinate and infundibulum, then flushing the nares with a warm saline solution, preferably by means of a post-nasal spray. This treatment is given once or twice daily. Usually within a week the

nasal mucosa has returned to its normal state and all acute symptoms have disappeared.

In the majority of cases, however, we find the middle turbinate to be hypertrophied or diseased, and as this condition causes obstruction of the natural openings and thus interferes with drainage, its early removal will decrease the necessity of a more radical intra or extra-nasal operation later. In removal of the middle turbinate, the method used should be selected with reference to the anatomical conformation of the nares and to the individual preference of the surgeon. Personally, we prefer to remove the entire turbinate and as many of the anterior ethmoidal cells as can be reached by means of the curette and small biting forceps. Most text books advise removal of only the anterior 1-3 or 1-2, but it has been proven that there is no real physiological reason why the entire turbinate should not be removed, and our results have justified the method of complete removal. In cases where there is marked septal deviation which presses upon the turbinate a sub-mucous resection of the septum and an infraction of the turbinate are performed. Practically all intra-nasal operations on the turbinates, ethnoids, septum and frontals, can be performed under local anesthesia. In most cases we administer one half hour previous to the operation, morphine or heroin with atropin.

Immediately after intra-nasal operations a dropper full of argyrol, 25 per cent., is applied, with the head thrown far back, to the operated side and no packing is used, but instead a flexible perforated splint (Kyle's), is inserted within the naris. Since using this splint we are rarely troubled with hemorrhage and obstructed breathing, and the patient is prevented from "snuffing and snorting" and getting a loose clot. Then, too, nasal breathing and ventilation are not interfered with. These minor cases are usually kept in the hospital 24 to 36 hours.

In the Caldwell-Luk operation through the canine fossa for empyema of the antrum a thorough opening is made into the nose beneath the anterior one-third of the inferior turbinate and the cavity is lightly packed with gauze soaked in argyrol. This is left in for 24 to 36 hours, when it is removed and a small wick inserted to keep the wound open for a day or two. In these cases the antrum is irrigated daily for two or three days, then the wound in the mouth is allowed to close and ventilation and drainage take place through the nose.

Few cases of accessory sinus disease if treated properly will require an extra-nasal operation, but when the intra-nasal methods fail after a reasonable length of time, to effect the

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desired cure, an extra nasal operation should be performed and every portion of diseased bone, granulations and pus thoroughly removed. In the modified Killian operation, whether or not the ethmoids have been removed, we use no packing. A large perforated tube is inserted through the floor of the frontal sinus and out through the nose. The tube is removed in from 24 to 26 hours, or as soon as it will come out without use of force. When you desire to remove the tube, take hold of it at the lower end with a hemostat and exert slight tension and it usually comes away without trouble or bleeding. We have quit irrigating and mopping these wounds, as these measures cause irritation and frequently a mixed infection. The wound needs drainage and ventilation and will heal more rapidly and more completely when not kept moist with irrigations.

In all cases showing sepsis, urotropin in large doses, grains 10 to 20, every four hours, is given and a restricted diet, consisting principally of fruit juices, buttermilk, broths, etc., is kept up until all symptoms of septic absorption have disappeared. The patient is given complete rest—both mental and physical—and every effort is made toward forcing the resistive powers to go to the repair of the wound and not to be utilized in faulty digestion, assimilation and elimination.

In nearly every case of posterior ethmoiditis the sphenoid sinuses are also involved, but after complete removal of the middle turbinate and curettment of the ethmoid labyrinth, resolution usually takes place rapidly and completely within the sphenoids. In chronic cases, however, it is sometimes necessary to probe the sphenoid and widen the ostium, and thus allow freer drainage and ventilation. Much care and patience are required before the probe can be passed into the ostium but after thorough cocaineization, and with the aid of the long bladed Killian speculum which is passed between the middle turbinate and septum, the anterior sphenoidal wall can usually be seen. The anterior wall is extremely thin and all undue pressure is to be avoided. If successful in probing the ostium we can then widen the opening with the sphenoidal forceps and aspirate if desirable. In this as in other sinus conditions we rarely irrigate, but instead apply an antiseptic, such as argyrol, and allow plenty of air.

In conclusion, we need not emphasize that all treatment, both operative and post-operative should be given in a strict aseptic and antiseptic manner, in order to avoid localized secondary infection. Do a clean, complete operation, but do not "overdo it." Especial care should be given toward restoring to nor-

mal the lowered resistance caused by the condition which rendered the operation necessary; to this end attention is given to the internal secretions and excretions. Slow and unfavorable progress after many complete operations done with faultless technique is often due to injudicious food and insufficient rest. After major rhinological operations we give small doses of iodine three times daily until its effect is indicated by increased discharge of mucous from the nose.

THE PREVENTION OF TUBERCULOSIS*

By DUNNING S. WILSON, Louisville.

As that weak and emaciated physician lay surrounded by the snow and ice of the Adirondacks, he could scarcely have dreamed, though the hours of rest and solitude were most conducive to such dreams; I say that while he was slowly being nursed back to something like the semblance of his former self, he could scarcely have imagined that his precept and example would from such an humble beginning grow into the mighty movement which has for its highest and greatest object, the prevention of tuberculosis.

Slowly and gradually the voice of "one crying in the wilderness" impressed itself upon a more or less indifferent people and as the message came to persons here and there in that great metropolis of our country, citizens of New York City slowly aroused themselves from their lethargy and as a blind man groping in the dark sought the light of truth.

This movement following the line of least resistance and first being appreciated by the more educated and highly civilized of our country, resulted in efforts being put forth by them towards the eradication of this disease. The anti-tuberculosis crusade swinging down along our Eastern shores thence South, has come at last to "Our Old Kentucky Home" and we stand no longer ignorant but in the full possession of knowledge that comes from precedent and the experience of others so we can no longer evade the issue.

Six thousand funerals each year attest our laggardness. Six thousand of Kentucky's sons and daughters each year fill new made graves.

We commemorate in story or glorious pageant, the Battle of the Thames; Kentucky's part in the victory of Lake Erie and gather each year with tender memories about the graves of those who died fighting under the Stars and Stripes or under the Stars and Bars, but we must hang our heads in shame, must put on sack cloth and ashes when it

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sweeps across our minds that nearly five regiments of our people each year move in solemn eadence toward that "bourne from which no traveler returns."

In this Year of our Lord nineteen hundred and thirteen, what are we going to do about it? It is not for us to worry over the sins of omission or commission of past generations, nor can we shirk the responsibility leaving the solution of the problem to future generations. It is now our duty to carefully analyze and inventory the weapons of offense and defense which we now possess. Let us not provide new weapons until we have carefully inspected the old ones, discarding, after due consideration the useless, the cumbersome and the ineffective.

The laws on our statute books are multitudinous with long and involved phrases which are supposed to elucidate but which more often confuse and befog. Let us strip them of their nonessentials making them sane and simple, comprehensive and understandable, determining to enforce them with kindness and fairness toward all, but with partiality toward none.

I do not propose to make this a medical essay or to dwell upon medical technique and will dismiss the scientifically medical in so far as it relates to diagnosis and treatment by saying; the physicians of our State must if needs be more thoroughly learn and vigilantly watch for the physical signs which will make them able to distinguish tuberculosis in the early stages.

If there is one great duty which the physician owes to his patients it is the duty of early diagnosing tuberculosis and when so diagnosed, whether early or late, to see that every person in the household is examined for evidence of the disease. When the diagnosis is made he must have courage enough to announce the same to the patient and family, so that while arranging for the care and treatment of the infected, arrangements may also be made to safeguard and protect the noninfected. Koch's demonstration of the tuberele bacilli despite all of its epoch making value, set back the early diagnosis of tuberculosis twenty years and brought about an almost abject dependence upon microscopical examinations for the diagnosis. This must no longer be, the diagnosis of tuberculosis must be made before the sputum is positive for tuberele bacilli.

The early diagnosis, however, is only a single factor in the prevention of tuberculosis and we must look to other and more potent agencies in order that definite plans be laid for the final abolishment.

Introspection should be our first move and if this is carried out to the last degree, we will

find that envy or jealousy, malice, egotism, unkindness born of selfishness, hatred and desire for self aggrandizement striking at the very roots and vitals of our existence handicaps us in this work as well as in every other phase of our existence. Politics, which like poker, seems to have a peculiar fascination for Kentuckians, is by no means the least of our handicaps.

The hundreds of different charitable and sociological organizations whether private or public sooner or later find that the presence of tuberculosis makes toward an economic moral and mental loss to the community out of all proportion to that of other diseases. The people of our State must rise up with one voice and insist that public health work must not be hampered by politics, cumbersome legal machinery, corporate or individual selfishness.

At the same time, public health authorities must change their view point considerably and realize that great as their services are to a community, they are only great in proportion as the knowledge derived is utilized for the purpose and because of its direct bearing upon our whole social life.

It is not enough to know that one or many individuals are suffering from a given disease, nor is it sufficient to know the methods of prevention. We may teach the cause and instruct regarding the prevention, but no definite, large results can possibly be obtained until we make every individual understand that the adoption of methods of prevention important as they may be to the individual, are much more important because of the individual's relationship to other individuals, either associating with them or as yet unborn.

It is Utopian to dream or work towards the establishment of a sufficient number of beds in Kentucky to accommodate from six to ten thousand tuberculosis sufferers, but it is important that institutions be established with not over three hundred beds for the care of the advanced cases making the county or a small group of counties responsible for their establishment and maintenance. This means the segregation, compulsory if need be, of a group of similarly afflicted persons who can be cared for, improved in health if possible and at the same time prove object lessons to the entire district which will soon come to a realization of the dire necessity of living under sanitary conditions, the fundamental principles of which are within the power of all to follow.

The prime object in the treatment of tuberculosis is to increase the physical resistance of the individual and thus in a natural way bring about a possible cure. The healthier our bodies, the less probability is there that

we will contract any disease and the prevention of all diseases is founded upon the premise that the greater our body resistance, the greater our longevity. Therefore, the methods which build up body resistance are the methods which prevent disease. If the methods used in attempting to cure tuberculosis are directed towards building up the body resistance, then it must follow that these same methods modified only in minor details are the ones which must be used to prevent other diseases.

It is a peculiar characteristic of our times that a community or a group of individuals, attracted by any particular subject, immediately form an organization and work toward the achievement of the object for which they are organized to the entire exclusion oftentimes of any other object.

It is unusual for such a community or group to analytically study existing agencies already operating along similar lines, with a view to utilizing, if feasible, such organizations to bring about the object in which they are interested and thus prevent the formation of a new organization. It is even more rare for them to determine before organizing just where, in the scheme of things, their organization is to find place and just what relation they will bear toward every individual or groups of such in their locality. Thus it has come about that we have organizations and committee meetings of these organizations until our days are crowded with meetings, oftentimes proving a most inefficient way of securing results.

We are forced for the present to accept conditions as we find them, but our aim must ever be toward a better and more harmonious coordination between these communities or groups of individuals, with a view to their eventual reduction in number when opportunity offers. It is not unreasonable to believe that an association organized for the study of the prevention of disease and for the improvement of Kentucky's citizenry, would have within its length and breadth, a comprehensive, coordinated and efficient program which would mean the upbuilding of the State in all of its integral parts along health, social and economic lines. Such an association through its many branches of endeavor would provide opportunity for work on the part of every man, woman and child and each could elect to render service in that branch which most appealed to them, knowing that whatever they did would be planned with due regard to its relationship with the *whole* work of the association.

The old adage that "competition is the life of trade" is certainly untrue when it comes to

modern business methods or is applied to any movement which has for its object the physical, mental, moral and spiritual betterment of our race. Those of us who have been or who are now awakened to a full sense of our social obligations outside of the bonds of blood relationship, must no longer seize haphazard what we can lay our hands upon and use it for the attainment of our object, no matter how worthy that object may be. We are sufficiently in possession of facts, large enough in numbers, are forceful enough in personality and should be sufficiently unselfish to insist that we bend every effort toward the elimination of waste energy, money, time and thought; that we set our house in order and calmly, dispassionately, lay the corner stone to a new structure upon the site of the old, pledging ourselves to a life of self-denial and sacrifice in the full knowledge that in so far as each does his or her part with relation to the other will results follow.

We talk of open air schools and establish them for the care of the weak, the anemic and the tuberculous, but the average normal child must spend his or her school hours in a school room deprived of the stimulation and joy of the open air; while caring for the weakly, the anemic and the tuberculous, we are at the same time providing facilities for the production of another supply of the weakly, anemic and tuberculous when we close our school room windows and shut out the fresh air from the supposedly well and strong. Why not give the healthy boys and girls every opportunity to keep so by having every school room an open air one?

We supply modified milk scientifically and carefully prepared to the infants only to have them later on pass from the careful watchfulness of the Baby's Milk Fund nurse succumbing in after years to the insanitary environments of our homes.

We erect sanatoria for the treatment of tuberculosis and point with pride to our cures, leaving the incurable in the home to spread infection and thus provide new objects for our egotistical solicitude.

Our hospitals for the insane, feeble-minded, the ruptured and crippled and the blind are full to overflowing but are our young men and young women sufficiently instructed in the fundamental laws known to every cattle breeder in order that their mating may be less veneered with the artificiality and nonessentials of our civilization, but more natural with the foresightedness, clean and clear mindedness of human beings who have eaten of the "tree of knowledge."

Natural selection and the law of the survival of the fittest may hold good in the brute

world and because of the operation of these laws finally eliminate the inefficient. Human beings, however, are not susceptible to these laws except in a very limited degree and owing to the sympathy which goes out to the weak and poorly, mankind still further impedes the operation of these laws and consequently, because of the very attributes which distinguish him from the brute, suffers the progress of the race to be handicapped.

The prevention of tuberculosis is not to be accomplished by antituberculosis organizations alone, no matter how excellently they may be managed. We must call into play and request the intelligent cooperation of the physicians, the sociologists, the lawyers, the employers, the employees, the charitable organizations, the federations of men's and women's clubs, the King's Daughters, the Baby's Milk Fund Associations, the play ground leagues, the tenement house commissions, the law makers, the boards of education, the public health officials, the churches and in fact every citizen of our State.

As a chain is only as strong as its weakest link, therefore, the prevention of the white plague must go hand in hand with the prevention of the black plague, the prevention of hookworm, cancer, typhoid, infantile diseases, poverty, drunkenness, abortion, blindness, feeble-mindedness, insanity, accidents, dishonesty, crime, crop failures and the wanton and improvident destruction of our forests or the wasteful dissipation of our natural resources whether by individual or corporation.

Finally, the warp and woof of such a scheme must be the leaven of human kindness and a sympathy which is a *motive* and *not* an emotion.

DISCUSSION.

Everett Morris, Sulphur: We have listened with a good deal of interest to Dr. Wilson's paper on one of the most important subjects that will be presented before this meeting. I say one of the most important because the disease is the most widely distributed one in Kentucky today.

The tribute paid Dr. Trudeau, that bold pioneer in the treatment of tuberculosis is just and timely.

I have the pleasure and honor in representing the Kentucky Board of Tuberculosis Commissioners before this body. This bureau was created and provided for during the last Legislature and is now carrying on an intensive educational campaign throughout the State. The chief avenues of publicity work consist of a free health exhibit car, lectures, visiting nurses, health leagues, exhibits for fairs, and the distribution of plate matter to the papers of the State along with carefully prepared pamphlets on tuberculosis. This is

the answer to the question. "In the year 1913, what are we doing about it?" There has been more work done in this good year looking toward keeping people free from tuberculosis than during the last decade.

The passion of the 20th century is civic betterment through cooperation. The tuberculosis commission asks for the heartiest cooperation of physicians in the State in this big fight against this relentless disease. But the responsibility should not rest upon any one profession, but on "The rich man, poor man, beggar man, thief, Doctor, lawyer, teacher, chief," and the amount of their fighting should be commensurate with their conception of civic duty.

I agree with Dr. Wilson when he says, "The discovery of the tubercle bacillus by Robert Koch, set back the diagnosis of early tuberculosis 20 years." Too many of us let Dr. South make our diagnoses when she should have been used only to confirm them. The time is coming when physicians will make diagnoses of incipient tuberculosis before the microorganisms can be discovered.

There are just two ways to stop the spread of tuberculosis. One is to make every consumptive harmless to his family, and to the community; the other is to keep our physical selves in such a condition that the defense against the germs is perfect. The first is largely a community problem; the second an individual responsibility. The new tuberculosis law has made it possible for every community to solve its problem by building tuberculosis hospitals. These can be built and maintained by a county levy and will serve a double purpose, namely, increase the chances of the sick to get well and decrease the chances of the well to get sick. In this way the sick will have the advantages of the best treatment, while the public, at the same time, will be free from any possibility of further infection from them. It is of greater importance to provide for this disease than for smallpox and some of the mental disturbances. Hospital care for the chronic, as well as the incipient cases is practical and in the long run a paying investment for any community. Our forefathers overlooked the importance of the solidarity of the human race "that every thing that's done in humans, injuries all of them the same and that the man who holds another in the ditch must stay in the ditch with him."

The medical profession must take the initiative in all civic movements looking to better public health conditions. Our responsibility is not confined to telling our clientele how to personally avoid tuberculosis but in interesting them in taking care of the unfortunates who can not take care of themselves. The county or district tuberculosis sanatorium is intended to meet this need. Each county in the State can establish one of these institutions under the new tuberculosis

law. A few progressive counties are now taking the necessary preliminary steps with the view of building a sanatorium. If you are interested in this humanitarian work write to the Tuberculosis Commission at Frankfort.

T. A. Frazer, Marion: In this fight against tuberculosis we physicians have not been as frank and honest with ourselves and our patients as we should have been.

I agree with Dr. Morris in regard to the diagnosis. We should not depend upon Dr. South to make the diagnosis for us. Usually, if we depend upon the bacteriologist to make the diagnosis, the disease has done such harm and has produced such destruction of tissues that the chance for recovery is small, but we should be perfectly frank. We should study the question of tuberculosis. How many physicians in this State have one volume in their library upon the vital subject of tuberculosis, a disease which causes one death in every seven in Kentucky, a disease that is wiping out our young and useful citizens at a time of life when they are worth most to their families and worth most as citizens of the State. We should not wait until there are cavities in the lung to tell patients they are tubercular, but by applying the modern methods of examination we should be able to diagnose tuberculosis long before a cavity appears in the lung. We should regard every case with suspicion that lingers for an indefinite time unless we know positively the disease from which the patient is suffering. I have found in the last few years that it is easy to make this diagnosis, and I have had practically every early diagnosis I have made of tuberculosis confirmed. We can use the vaccine long before we can find tubercle bacilli, and I believe it is reliable. I have used it in a number of cases and in every instance where I got the reaction time has proved it to be tubercular. We should not be looking to get away from tuberculosis, but to find it because it is all about us, and if this condition continues, one member of each family of seven is due to die of tuberculosis. If that family escapes the white plague some other family has got to lose two or three members to make the tally sheet balance. Let us wake up and go to work. Let us take upon ourselves the responsibility that is resting upon our shoulders to direct the people of the State of Kentucky how to fight this great monster.

Leon L. Solomon, Louisville: I should like to say a word or two with reference to Dr. Wilson's paper, bearing upon the question of "early diagnosis" of the tuberculosis; I believe that the diagnosis of tuberculosis will be far easier and safer, particularly the early diagnosis, if we bear in mind, that the one common factor, which gives rise to unilateral bronchitis is tuberculosis. So frequently we are willing to say, that the patient

has bronchitis, when it is impossible to demonstrate this condition, as a bilateral state, there being only a unilateral condition. Such bronchitis is, in the vast majority of instances, tuberculosis and sooner or later is easily so diagnosed. Bear this in mind and you have at your command an almost unfailing index to early diagnosis.

I want to say, furthermore, that I believe many, many cases of pleurisy, which we have heretofore treated as "simple pleurisy" were really tubercular pleurisy. They get well only to relapse, later on, and finally give rise to serious trouble. I will go a step further and say, many cases of pneumonia are tubercular, and not simple pneumonia, and, if we bear in mind the three conditions, (1) unilateral bronchitis, (2) pleurisy, and (3) pneumonia, we will be able to help vastly in the diagnosis of early tuberculosis, without being required to have "Dr. South vindicate us," in our diagnosis, by the finding of the actual tubercle bacillus.

UTERINE HEMORRHAGE AND ITS SIGNIFICANCE.*

By R. C. McCHORD, Lebanon.

A discharge of blood from the womb is pathological when it is excessive, and is to be classified as a hemorrhage.

Hemorrhage from the womb is significant of some abnormal condition, and its cause means much to the individual, depending in great measure on its prompt recognition and appropriate treatment.

During the period of functional activity of the female generative organs, from puberty to the menopause, menstruation, approximately every twenty-eight days, must be regarded as a perfectly natural process, and is an index of the condition of the health of the individual, so far as these organs are concerned. Hence, any frequent and positive deviation from the normal, constitutes valuable evidence of the presence of disease.

To better understand the abnormal, I would say that there are certain rules that apply to menstruation with great uniformity that should be clearly understood; but we must be prepared to know that in practice, irregularities occur in certain individuals, more particularly in the duration of the period and the amount of the flow.

Generally the custom established at puberty will follow the individual through the whole of menstrual activity, except when the accidents of pregnancy produce a change.

In studying individual cases for the abnormal, one should be careful to learn these

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characteristics, and bear them in mind. In the time allotted, it will be impossible to discuss the many pathological conditions causing uterine hemorrhage; but it will be my purpose to consider the most important conditions in which hemorrhage from the uterus is significant of serious pathological changes, merely mentioning those of minor importance.

Uterine hemorrhage, at or near puberty, is usually due to two causes, viz: functional derangement and mucous polypi.

Functional menorrhagia at this time is due to some vaso-motor nervous disturbance, or to a relaxation of the tissues in general, caused by rapid growth and sudden full development.

Mucous polypi are found in the cervical canal and body of the womb. This structure being made up of circumscribed hypertrophies of the mucous membrane, varying according to the tissue from which they spring. They bleed freely, as the tissue is general menorrhagic. Granular hypertrophy of the uterine mucosa, like the polypi, occurs shortly after puberty, in a uterus often of normal size and position, without any known cause. Free and profuse menstrual flow being its chief characteristic. In older women, these two conditions are usually associated with myomata and hypertrophy of the endometrium.

Various benign diseased conditions of the endometrium, characterized by the older writers as fungosities, are more or less causes of hemorrhage, and often of a severe type, which saps the vitality and destroys the health of many women, who have gone, unsuspectingly, for years, laboring under the impression that the menorrhagia was a disease and not a cause or symptom. An exact diagnosis of these cases should be made in every case, when possible; as prompt recognition of the cause, and treatment, which is generally surgical, is followed usually by brilliant results.

In the young child-bearing woman, hemorrhage is most frequently caused by the accidents in connection with pregnancy and labor viz: retained products of conception, laceration of the cervix, misplacement, subinvolution, inflammation of appendages and pelvic congestion. Retained products of conception gives a history of miscarriage or abortion. The os is found dilated, enlarged and patulous, the body tender, enlarged and soft, followed by irregular hemorrhages. The diagnosis of the other causes, is plain.

The differential diagnosis of the cause of hemorrhage in a woman approaching the menopause is truly one of much importance, in connection with the subject under consideration.

Hemorrhage in a woman approaching this

period is significant of a serious disease and the policy of ascribing the cause at this time to the "change of life" or "primary idiopathic congestion," must be apparent; for it is at this time of life that we mostly encounter fibroid tumors, adenoma and malignant growths; the first manifest symptoms of these being hemorrhage.

Again, it must be remembered that we are dealing with a disease and not a symptom, and any error of diagnosis which would delay giving prompt attention to a malignant growth, might, for obvious reasons, prove disastrous to life.

In the great majority of cases of cancer of the uterus, we do not see these cases, until a slight irregular hemorrhage is called to our attention, and on investigation it is found that this condition has existed for weeks and even months. Its approach is insidious and the innate modesty and ignorance of women as to these dangers so great, that the so-called "inoperable cancer" is most often found to exist. Women must be taught that any unusual flow of blood, which is persistent, means something at this time, and on the first manifestation of such a condition, they should apply to their physician for examination and advice.

If we, as physicians, would realize what this cancer problem means; if we would realize that one out of every eleven women of all ages die of cancer and that past the age of thirty-five, one woman out of nine will likewise perish, and at the same time consider that its early recognition is our only hope of cure; probably we would be more earnest in our endeavors to educate our clientele as to its dangers and make them realize the significance of uterine hemorrhage.

DISCUSSION.

E. Clark, Falmouth: I feel that the subject which has been presented by Dr. McChord is too important to allow to go by without discussion. Probably during the session of the Association there will be no more important subject for consideration. The subject of hemorrhage, especially in women at or near the menopause, is very apt to deceive the patient and likewise the doctor. Women should be taught that a hemorrhage of an unusual character at that time should be investigated early and thoroughly, and if this was done, the death rate would be very much reduced from cancer of the uterus.

It will probably be of some benefit and interest to report three cases of hemorrhage that came under my observation. One of the women refused to be examined and died of cancer six months afterwards. In her case the growth was very rapid. The other women were examined, both were oper-

ated upon, and are well. If every physician throughout the land would insist upon a thorough examination of a woman with any unusual hemorrhage at the climacteric period, the death rate would be very much reduced.

W. W. Anderson, Newport: I would like to add this word in the way of discussion of this subject. Uterine hemorrhage during the child bearing period is most often due to non-malignant causes, but the fact that it is due to these ordinarily gives us no right to presume in any individual case that the conditions are non-malignant, and demands on our part the most searching care because, as Dr. Baldy, of Philadelphia, said a few years ago—I think the figures may be better now than then—but still are approximately correct, that only 2 per cent. of cases of cancer of the uterus, taking them all in all as they come to the physician, are ever permanently cured, that is, only two per cent., for the cases come too late. But they do not always come to the physician too late; he is too slow in finding out what is the matter, and he ought to subject the patient to the most searching examination to determine the diagnosis, the reasons for the hemorrhage and not presume it is a non-malignant condition until he is sure.

Edward Speidel, Louisville: The essayist mentioned in his paper one condition especially of uterine hemorrhage, a benign condition, that is very often overlooked or diagnosed incorrectly, and that is hemorrhage from mucous polypi. It is astonishing how often a hemorrhage of that kind is either not diagnosed at all or has been mistaken for a hemorrhage from cancer. The differentiation, as you can readily understand, is very simple. Vaginal examination and the fact that the tumor present has a pedicle leading into the cervix, makes the diagnosis. Even in instances of that kind the tumor mass may be sloughing and be covered with incrustations and hard places like the ordinary cancer, but by simply pushing the examining finger higher up the pedicle can be discovered.

The most important feature, of course, in making this diagnosis is that if you make a correct diagnosis of cervical polypus, radical cure of the patient can be brought about easily and completely. A woman, especially an old woman, may have been bleeding from month to month, and by simply twisting off the tumor mass even without anesthesia in some instances, she is cured apparently of the cancerous condition at once.

In many instances, patients again come to us who have not been examined. The fact of a continuous hemorrhage in a woman 50 years of age or more, who has passed the menopause, is in the minds of some physicians sufficient to make a diagnosis of a malignant condition, and in that way this benign and simple condition that gives

rise to so many hemorrhages in later life is overlooked.

W. A. Guthrie, Franklin: There is one condition which produces hemorrhage of the uterus which has not been mentioned. This condition is where we do not have any growth or pathologic condition so far as I can discern. These conditions have been treated by various methods without result, namely, by the use of the cautery, ennetting, and so forth.

A number of years ago I was in Philadelphia and saw Dr. Clark in a clinic operate on one of these cases. He had used all these remedies without results, and decided to do hysterectomy. After removing the uterus he opened it and divided it and there was no pathologic condition of the mucous membrane or in the muscular tissue so far as we could discern, but all the blood vessels stood wide open. There was no contractile power whatever, and he claimed there was such an arterial condition that the arteries never contracted under any circumstances, so that there is no local method of treatment whatever that will do any good, and the only hope for these cases is a complete hysterectomy, not being a malignant condition, as shown under the microscope.

I had a case not long ago of hemorrhage, the history of which I will relate briefly and ask your opinion about it. This woman was 46 years of age, and had the change of life 10 years previously. She came to me in a nervous condition, and previous to the visit she had had considerable hemorrhage from the uterus a couple of weeks before. I made a vaginal examination and found she had complete stenosis and continual oozing of blood from the cervix. There was some erosion, but no tumor of any kind. I advised the husband of this woman to let me remove a section for microscopic examination to determine whether or not the disease was malignant. He declined, and called in a specialist to assist in making a diagnosis of the case. He was a noted man. He made a thorough examination and decided that there was no symptom of malignancy; that it would not be necessary to make a section for microscopic examination. I disagreed with him. She is continuously passing this blood, and I am still of the opinion it is cancer, and that that woman will pass beyond the stage of relief. The husband is a wealthy man and could have had any examination that might be necessary.

Louis Frank, Louisville: This discussion opens up a tremendous field for discussion and remarks, as it deals with one symptom only which itself may be present in any one of a number of other diseases any one of which might have this manifestation as one among a number of symptoms. However, there are some points which have been brought out or touched upon by some of the gentlemen who have discussed the paper that I be-

lieve require reiteration, and I think there are one or two things to which attention should be called in connection with the points they have mentioned. I refer particularly now to hemorrhage in carcinoma of the uterus. We frequently make the error of looking upon all cancer of the uterus as cancer of the cervix. We should not forget the fact that we may have cancer of the body of the uterus in which there is no ulceration, in which there is no external manifestation which can be noted by visual examination or which may be felt by digital examination. So in these cases removal, as has been suggested by the essayist, of a portion of tissue from the cervix gives no clue to the cause of bleeding. I wish to commend the last speaker for saying the microscope should be used in all cases; this is good practice, because in many cases of carcinoma of the cervix and of the body of the uterus, if the diagnosis is made sufficiently early, a radical operation can be undertaken with the greatest benefit to the patient. But an early radical operation will and always must depend upon the pathologist and the laboratory diagnosis of removed tissues. The last speaker deserves commendation for the stand he has taken and should be upheld in it.

In cancer of the uterine body removal of a section of the cervix gives no index of what is going on. The disease is inside the cavity of the uterus usually at the fundus. If you should remove a piece of the tissue by means of the curette the microscopist should know where it comes from and how it lay in the uterus. Curettings should be removed in long sections, so they can be examined in the laboratory with reference to the anatomic relation to the uterine wall, other wise the pathologist may make an error. In cureting sections through the glands obliquely you will get at the bottom of some of the glands, the cells may seem to penetrate into the muscularis, and it is impossible for the most expert microscopist to make an absolute diagnosis at all times under such circumstances. Sections must be made transverse or parallel to the glands and not obliquely.

There is one other point in connection with carcinoma of the cervix to which I desire to call attention and we must still insist upon it, and that is, women should have examinations made if the slightest hemorrhage recur after the menopause or if they have a flow which exceeds the normal amount of the regular period at any time during the climacteric. The point I would make is with reference to profuse hemorrhage, namely that in cancer of the cervix it occurs not early in the disease, but after the disease has existed for some time. If we make a diagnosis early, it is of the greatest value to our patients and early operation will enable us to save the largest percentage of cases. I cannot agree with the statement quoted as having been made by Dr. Baldy that

only two per cent. of the cases of carcinoma of the uterus operated upon recover. We have better statistics than those in doing the radical Worthheim operation, taking out a large portion of the upper section of the vagina. If we would save a greater number of these women it is very essential that we should make an early diagnosis and operate promptly. The disease usually occurs at a time when they are in need of our greatest help, at a time when these women are of the greatest help to their families, and are most important and necessary members of the community. Every effort should be made to save them. If we would do them the greatest good, we should wage a propaganda for the examination of women during the period of the change of life. If the greatest good is to be done by surgical methods, whether radical or not, our diagnosis must be made before the time of profuse uterine hemorrhage which means ulceration. At this time the cases are on the borderline with reference to giving them the best chance. When they are beyond the borderline, they have gone too far for radical operation to give relief. If help is to be given to these women, it must be earlier than the time when the hemorrhages are profuse and irregular, namely, during the period of discharge and before hemorrhage manifests itself.

I would emphasize the one point that profuse recurrent hemorrhages in cancer of the uterus means ulceration, and usually at the time the disease has progressed to a considerable extent. One should be able to make the diagnosis at an earlier period. Early diagnosis, before profuse bleeding is essential if our results are to be improved and the mothers of our country saved the horrible agony of death from cancer of the uterus.

A. D. Willmoth, Louisville: I think this is one of the most important subjects that will come before this Association this year; in fact, it is one of the greatest importance that can possibly come before us.

In the consideration of uterine hemorrhage, we have some things to bear in mind that possibly have not been so thoroughly impressed upon us heretofore. First and foremost in uterine hemorrhage, the hemorrhage comes on at three different periods of life. First, the beginning of puberty; second, during the child-bearing period, and third, at the time of the menopause.

We are all thoroughly acquainted with the fact or should be that where hemorrhage occurs at the beginning of puberty, where there is a hemorrhage from the uterus itself, it is most generally the result of constitutional conditions. These hemorrhages have behind them or underlying them a condition of the lungs, the kidneys, or liver, or they have according to Deaver, a decrease in the calcium salts in the blood, and the administration of the lactate of calcium in three-

or four doses, per day of 10 to 20 grains each, will relieve them.

There is another class of patients that belong to the class referred to by Dr. Speidel, where you have in the young girl a small polypoid growth, situated near the internal os, which has to be dealt with in a mechanical way.

I want to discourage the early and indiscriminate use of the curette. I think of all instruments, unless it be the sharp pointed bistoury and grooved director, the curette has done more harm than any instrument ever invented. It is introduced into the uterus indiscriminately at all times and under all conditions. Certainly, young women at this age do not require its use until they have had the most searching examination made, and not meddling gynecology done on them. If you keep instrumentation out of the uterus, you are not so likely to see cases of infection. If you keep it from going beyond the internal os, you will not in after years see a young woman coming to you with a leucorrhœal discharge that is the result of infection of a healthy endometrium.

When we come to the childbearing period of life, we have retained products of conception that are left behind and that cause hemorrhage in which the diagnosis is easy. If a woman has reached the menopause and you have a hemorrhage to contend with, no man is justified to treat any woman at that age for a hemorrhage with medicinal means. It does not take long to exclude any constitutional cause; then for heaven's sake and for the woman's sake take a curette, remove a piece of the tissue and subject it to microscopic examination. You can do no harm at that age. Have the scrapings examined by a competent pathologist and learn early in the case the nature of the disease when you can do something for the woman. Even though she really has cancer, a radical operation will give her some show for her life.

In the young woman do not use the curette, but in the older women at the menopause use the curette early, removing specimens in long strips, and submitting them to a pathologist, and find out what is the matter with the woman, and in nearly every instance you will find you will have beginning carcinoma, and if you resort to early and complete operation, you give the woman the best chance for her life.

R. C. McChord, (Closing the discussion: The all important point in this matter, as I can see it is the diagnosis, the cause of hemorrhage. We should be very careful about that. Upon the diagnosis will depend the treatment or cure of the disease in these cases. If we are more careful, we would be better able to give these patients hope so far as the prognosis is concerned.

A hemorrhage at the beginning of puberty means one of two things generally, a functional

congestion or a mucous polypus, and it is astonishing how often we are consulted by young women who have persistent hemorrhage that have mucous polypi. If we make a diagnosis of mucous polypi, and use the curette, we relieve them. So far as the functional congestions are concerned, they take care of themselves in many instances, without treatment other than symptomatic attention.

As I have said before, the important point in this matter is early diagnosis. A great many medical societies in the different states of the United States and other countries have adopted the rule to subject every woman during the childbearing period up to the menopause to an examination. In other words, it has been suggested that they go to the family physician and be examined once a year. Cancer is on the increase, and it is claimed the only way we can control it is by having women examined at regular intervals, and get at the disease in time so that we can do something with it. Most cases of cancer of the womb are not seen by the physician until they have advanced to a point when a radical or curative operation is impossible.

When we realize that eleven out of every one hundred women over thirty-five years of age die of cancer, we must take notice.

SECONDARY PUERPERAL PATHOLOGICAL CONDITIONS.*

By J. K. W. PIPER, Russellville.

The above conditions are those being due to, depending upon and having their origin in the primary conditions existing at or immediately following the puerperium.

There are so many secondary puerperal conditions that are largely due to the same series of primary causes, that depend upon one another largely for their degree of seriousness that the writer will take up only those that seem to him to be most important.

The most remote or primary, as well as the most frequent and preventable, causes of pelvic diseases in the puerperal patients are sepsis, due to lack of antiseptic precautions; and failure to recognize, by failing to examine for and repair lacerations, on the part of the accoucher; and, lying too continually on the back; wearing too tight abdominal bandages, and getting up too soon after confinement on the part of the patient.

The poorer class of patients is more subject to these causes for obvious reasons—the patient's environment, and lack of skillful attention on the part of the physician or midwife.

The two most important general causes of

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secondary pathological conditions are lacerations and infections. To these two causes, the latter depending largely upon the former, can be attributed the great majority of abnormal conditions in the pelvic organs. In the normal properly conducted puerperal period there should be practically no secondary pathological conditions.

Tears of the perineum often destroy the integrity of the pelvic floor, resulting in the displacement or prolapse of the pelvic organs, by reason of the weakening or complete destruction of their normal support.

Rectocele, with its chain of intestinal troubles, incontinence, autointoxication, etc.; cystocele followed by infection of the bladder, which may extend through the ureters to the kidneys, and retroversion and prolapse of the uterus and other pelvic organs, as well as conditions due to and following lacerations of the cervix, such as endometritis, sub-involution, tubo-ovarian inflammations and malignant conditions are some of the sequelae.

All lacerations increase liability to septic infections, and by the consequent congestion inflammation and following adhesions, with the weakened support promote sub-involution of the uterus, which in turn increases the liability to prolapse. Many of the sequelae result in a variety of conditions which may not appear for years later.

These pathologic conditions all have many symptoms in common and several conditions may exist at the same time, which dovetail into one another in such a way that it is hardly possible to diagnose their separate conditions unless we consider them singly, or to treat them successfully unless we treat them jointly.

Perineum: While it is impossible to prevent all perineal from being lacerated, by a systematic effort to protect them it is possible to reduce the number and frequently lessen the extent of the tear when it cannot be prevented. Preventive treatment is always in order, and, I believe, can best be done in these cases with the patient lying upon her side while the child is being born. In this position the perineum can best be supported and massaged, (which will frequently cause it to stretch farther) and the presenting part can be better seen and prevented from being expelled too rapidly, which in the great majority of cases is the cause of the tear.

When a tear does occur, unless it is submucous, which is rare, it can usually be easily diagnosed by dilatation of the vulva and inspection. This should invariably be done. Care should be used to ascertain the extent accurately before an attempt at repair is made. Here again preventive treatment of

many secondary pathologic sequelae should be the immediate repair of all lacerations of the perineum, if the patient be in condition to stand it. In some of our eastern hospitals repair is made before delivery of the placenta.

As the median tears do not usually involve the integrity of the levator-ani muscle, the pelvic floor remains undisturbed, but if the sphincter-ani be torn and not repaired at once it can never be so easily done afterward.

If the tear extends laterally, involving the vaginal sulci or towards the ischio-rectal fossa the fibres of the levator-ani muscle are liable to be divided, and the fascia opposite the vaginal outlet lacerated. In this condition the function of these muscles is destroyed and the pelvic floor can no longer support the pelvic organs as well as the terminal ends of the urethra, vagina and rectum, and if allowed to go unrepaired the muscles will soon retract and atrophy, and even though an operation for their repair is done later it is never so satisfactory, for they never regain their full power. If this condition continues involution of the uterus and vagina is arrested, the uterine ligaments become stretched by the increased weight, and prolapse of all the organs of the pelvis takes place. Immediate repair is always indicated, for it lessens the danger of infection as well as saves the patient from the possibility of the sequelae that so frequently occur.

The diagnosis of old tears is made by inspection and palpation. A relaxed, patulous vulvar orifice, frequently standing open, anal ring prominent, and more or less relaxed; and flat perineum which the patient is unable to contract or pull forward. If examined in the squatting or sitting position and she be required to bear down the anterior and posterior walls of the vagina roll outward.

The treatment is surgical.

The technic of primary and secondary operations for lacerated perineum is found in all text books and will not be described.

Cervix lacerations occur to a greater or lesser extent in the majority of first labors, but the large proportion heal without trouble. In lacerations that have existed for some time the symptoms are due to the lesions for which the lacerations are responsible. The most prominent of these secondary conditions are subinvolution of the uterus, displacements partly due to subinvolutions, chronic endometritis, chronic tubo-ovarian disease following the endometritis, and cancer.

The main symptoms are a feeling of weight in the pelvis, pain in the back and head, usually referred to the vertex, increased and painful menstruations, lacerations, a tendency to abortion, many reflex nervous symptoms

due to these conditions, and to the scar caused by the effort of nature to repair the wound.

Diagnosis is made by touch and sight, and if the condition has been of long standing the secondary pathological conditions are in evidence in a majority of cases. Any position that will expose the cervix will answer for the examination, but the Sims position is probably the best and a short bladed bivalve or a Sims speculum can be used. The cervix is blunt, indurated and harder than normal, the torn lips with rolled over edges, partly covered by intra-cervical mucous membrane can be seen, and the plug of scar tissue, tender to pressure can be felt at the bottom of the wound. To further prove the nature of the lesion a tenaculum or bullet forceps can be hooked in the edge of each lip and the latter drawn together. As this is the favorite site for the development of cancer, and as eversion of the intra-cervical mucous membrane without laceration occasionally occurs, and eversion of the cervix without laceration not uncommonly, a differential diagnosis must be made between these conditions.

In cancer the disease is rapid in its course; true ulceration is present and bleeds freely; the discharge has the characteristic odor of malignant growth and a microscopic examination of the tissue can be made if doubt still remains. In eversion or erosion without lacerations the diagnosis is made by the absence of the signs of lacerations and by the history of the case.

Treatment: Fresh lacerations should be stitched immediately if possible as preventive treatment. If none of the above named secondary conditions exists, which is a fact in more than half the cases of old laceration, no treatment is necessary; if they do exist, in advanced stages operative treatment is necessary and should be done, unless there are grave pelvic lesions which prevent it. Hard, sensitive scars in the angle of the wound, hypertrophy of the tissue, induration, cystic degeneration, endometritis, erosions, eversions of the cervical mucous membrane, uterine displacement or any conditions responsible for subinvolution are indications for surgical treatment.

Palliative Treatment: When the case is of recent origin, and the secondary conditions are not grave, local routine treatment may be of some benefit, not to cause the laceration to unite, for this is practically impossible, but to prevent mild uncomplicated secondary conditions from becoming grave. Hot douches of two or three gallons of normal salt solution taken in the recumbent position night and morning, will frequently lessen congestion, and if followed by a glycerine tampon placed

against the cervix every three or four days and allowed to remain from twenty-four to thirty-six hours, will frequently assist to deplete a slightly subinvolved cervix. Scarification or puncture of an eroded cervix so as to draw a few drachms of blood once a week in addition to the above treatment is often of marked benefit. Small cysts should be evacuated and wiped out with carbolic acid. I have seen much benefit to erosions derived from painting with Churchill's tincture of iodine, about every four or five days, in addition to the regular douche treatment. The antiseptic vaginal suppositories composed of glycerine, gelatine, hydrastis, ichthyol, etc., put up by the different drug firms, and the wool capsule tampon is an easy and convenient treatment.

Surgical Treatment: If the case has continued for some time a preparatory treatment such as described above may be advisable before an operation is done. The choice of the operation to repair the cervix depends upon the extent of the loss of tissue, hypertrophy, etc. Where there is but a simple lesion and small loss of tissue, trachelorrhaphy is the operation of choice, but if the laceration is stellate with great loss of tissue, or when extensive erosions with cystic degeneration or cervical erosion is present amputation is indicated. Great care should always be used in dissecting out all scar tissue, as it is in this tissue that cancer so often has its beginning. The technic of the operation is too well described in text books to mention here.

SEPTIC INFECTIONS.

The most common expression of septic infections is endometritis, local peritonitis, general peritonitis, tubo-ovarian inflammation.

Endometritis: Infection of the endometrium by septic micro-organism is the beginning of the majority of the inflammatory lesions affecting the pelvic organs. Post puerperal infection is the most common cause of this disease. Frequent vaginal examinations without proper septic precautions, unclean operations, introducing unclean fingers or hands into the uterus, criminal abortions and retained particles of placenta are among the most common causes. In the acute variety the symptoms are more apt to appear in three to six days after labor and are frequently ushered in by a chill, sometimes several, followed by a rise of temperature. In several cases that I have seen the chill has been preceded by a period of several hours of a feeling of well being. The fever course is of the usual acute septic, irregular character, and if the source of infection is not destroyed, continues to mount higher, the pulse becoming more rapid, compressible and weak; gastro-

intestinal symptoms occurring in the meantime, and the patient dies of exhaustion.

Diagnosis: The uterus is usually soft and flabby; the os uteri patulous and open, the vagina filled with the characteristic purulent secretions and lochia. The body of uterus is tender on bi-manual pressure. The differential diagnosis must be made between this condition and malignant diseases of the body of the uterus, fungoid or polypoid growths, sloughing off from the inner surface of the uterus, and from an incomplete abortion, by a careful examination of the discharges, if necessary with a microscope, and by a careful study of the history. A differentiation can be made between this condition and a fallopian tube or pelvic abscess by the intermittent character of the discharge of the latter accompanied by pain, and by a careful examination per rectum and vagina.

In uncomplicated chronic endometritis the slight enlargement of the uterus and the discharge are the only signs.

TREATMENT.

The treatment of postpuerperal variety of this affection is irrigation with hot antiseptic solution followed by normal salt solution in large quantities. This should be used through a return flow uterine douche that allows the return to come away freely, and as much as several gallons of this solution may be used. I have followed this irrigation in several cases with a few ounces of twenty-five to fifty per cent. solution of alcohol and water with apparent great benefit. The irrigation may be done every six or eight hours unless there is improvement. Curettage may be necessary if particles of the membrane are still retained. This should all be done with a dull curette and followed by hot antiseptic douche. If it can be ascertained that the parenchyma of the organ is the seat of infection hysterectomy may be necessary.

General septic peritonitis is practically the same as in non-puerperal conditions, is practically always fatal and will not be discussed here.

Local pelvic peritonitis manifests itself by a gradual rise of pulse (100 to 120) and temperature 101 to 103, accompanied by light rigors, muscular aching, localized abdominal or pelvic pain with slight tympanities; stomach unsettled; appetite poor; bowels irregular and skin clammy. It usually runs a slow course and is amenable to treatment unless the infection is very virulent. It must be diagnosed from general septic peritonitis and from non-peritoneal local abscess. The pelvic cavity should be examined per vagina, rectum, and by vaginal abdominal palpation, and if an abscess can be found it should be open-

ed and irrigated or wiped out and treated in the usual manner and drained. If none can be found, and the patient is gradually growing worse, the abdomen should be opened and a search made for the point of infection, and it should be treated accordingly. The most frequent situation in which an accumulation of pus is found is in Douglas cul-de-sac where it can usually be opened and drained through the vagina.

The patient should be nourished by highly concentrated foods in small amounts, heart and nerve stimulants such as whiskey and strychnine should be freely given. Saline laxatives and enemata to keep the bowels open. This condition is always followed by adhesions, which contract and have largely to do with mal-positions of the uterus, ovaries and tubes, sometimes matting them together in one common mass that is frequently impossible to treat except by abdominal operations. Adhesions frequently form between these organs.

Tubo-ovarian disease will only be referred to with respect to their complicating the diagnosis and retroflexion and introversion and the treatment of prolapse.

Displacement of the Uterus. Practically the only uterine displacements that can be considered strictly as secondary puerperal conditions are retroflexion and retroversions and prolapse. The latter are simply an advanced stage of the former. About one-third of all cases of retro-displacement are uncomplicated (frequently found in multiparae) and if associated with pelvic pains or menstrual disorders they require no treatment. About one-fourth of the cases are accompanied by and due largely to laceration of the perineum, involving the levator-ani muscle and are associated with a relaxed condition of the broad and round ligaments. The uterus is in a condition of sub-involution, hence the condition is due to an increased weight or pressure downward, and a lessened ability on the part of the normal support to hold the weight. Upon examination the cervix is found low down in the vagina and pointing forward. The fundus can be felt through the posterior vaginal wall or per rectum, in the hollow of sacrum. If the patient bears down, as in the act of defecation, especially if she be examined in a sitting position between two chairs, one buttock on either chair or in a standing position with the legs apart, the uterus will be felt to descend and the anterior and posterior walls of the vagina bulge outward.

In complete prolapse this condition is simply exaggerated. The vagina turns inside out, is reflected back over the uterus as it de-

scends through the pelvic outlet and vulva, dragging with it the ovaries and tubes, and a diverticulum of the bladder in front and the anterior wall of the rectum behind. This condition, as well as the symptoms, come on gradually. To the latter there is practically no end.

The best descriptive symptoms as spoken of by the patient is that she feels as though everything was going to fall out of her.

Back ache more or less relieved by a recumbent position: pain in the top and back of the head: pelvic pain increased by exercise or erect position: constipation caused by the pressure of the rectum on the sacrum: bladder symptoms, caused by residual urine, and endometritis and leucorrhœa. During process of formation while tissues are being stretched and dragged upon, the pain is much aggravated, but when the sacro-pubic hernia is complete the pain subsides to a great extent, and though the patient may suffer much inconvenience by the mass hanging between the thighs, if no further complications takes place she may go on for a number of years moderately comfortable. Probably one of the greatest dangers to life is from bladder infection which may extend to the kidneys.

In diagnosis of earlier stages the round mass felt through the posterior vaginal walls must be distinguished from uterine fibroid and ovarian tumors. This can usually be done by vaginal examination or by the careful use of the probe under thorough antiseptic precautions.

In later stages it must be distinguished from inversion of the uterus, in which condition the cervix forms a ring about the mass and no opening can be found through which a sound can be passed into the uterus. Also from cervical polypus, which by careful examination will be found to be hanging out of the uterus, and a sound can be made to enter the uterus from all sides and will pass completely around the mass.

TREATMENT—PALIATIVE AND RADICAL.

Paliative treatment can be used with benefit in early not too badly complicated cases. It consists of means to reduce congestion and to replace and to retain the uterus in its proper position.

The knee chest or the exaggerated Sims position, is best. In either of these positions, if the end of the finger is pressed against the front of the cervix and it is pressed back and at the same time the posterior vaginal wall is forced back by the body of the finger a column of air will inflate the vagina and the fundus will fall forward into its normal position, if there are not too many adhesions holding it back. Through a speculum that

the operator can best use, a tampon of cotton wool or gauze with a depleting mixture of glycerine and boric acid, such as mentioned above for local treatment, is placed so as to hold the uterus in position, or at least prevent its falling as low as before. The patient should lie in this position for a few minutes to allow the parts to adjust themselves, and should not be allowed to turn over on her back before getting off the table, but to assume the upright position from that in which she was when the tampon was introduced, so that the intestines will fall down on top of the antverted uterus to assist in holding it in its place. This tampon can be used every four or five days and be allowed to remain in place for from twenty-four to thirty-six hours, and the usual hot saline solution douche used after its removal and continued twice daily always in the recumbent position. The uterus can be placed in its normal position much more easily by the above described method than by the bi-manual method with the patient on her back, especially in fat people.

The patient may be taught to replace her own uterus by assuming the knee-chest position and forcing the posterior walls of the vagina back with her finger or thumb. She should do this upon retiring every night after using the douche.

If there is an absence of lateral inflammatory conditions, not too many posterior adhesions, and the vaginal outlet sufficiently closed to retain a pessary, many a selected case may be benefited by its use. The diameter of the vagina being greater near its cervical than at its vulvar end will ordinarily retain a ring pessary, which by spreading the vaginal walls and at the same time encircling the cervix, will have a tendency to support a retrodisplaced or descending uterus. While some form of the hard rubber ring pessary (the ordinary ring, Thomas or Hodge) will usually suffice, as there are no two cases alike, it is essential to success to use the one that fits. If it does not fit at first its shape should be changed until it will fit or it should not be used. It should not be too large as undue pressure will do harm. It can be introduced with the patient on her back after the fundus has been brought forward but she should be placed in the knee-chest position so that the uterus will be held forward by gravity and the pessary further adjusted if necessary, and the patient be required to assume the upright position without again turning upon her back. Whether or not it does what it is intended to do can be learned only by an examination made with the patient in an upright position. Especially in cases of prolapse in old women in whom for some reason operations are con-

tra-indicated pesary is advisable. These pesaries do not prevent the use of the douche or the vaginal suppository referred to above.

RADICAL TREATMENT—SURGICAL.

There are so many conditions due largely to the same cause dovetailing into and depending upon one another for their continuance that when we contemplate the cure of extreme retroversion and prolapse by radical surgical means we must consider the complications or be unsuccessful in our operations. In nearly all of these cases a series of operations is necessary. No two cases are alike.

Prolapse is nearly always accompanied by lacerations, ulcerations and other diseased conditions of the cervix, by endometritis and sub-involution of the uterus and frequently by cystocele and rectocele.

The patient should undergo a preliminary treatment for at least a few days before the operation, attention being given to hygienic measures in general and to diet. Constitution and local treatment should be given to meet the indications of each case.

If endometritis exists dilatation and curettage and other appropriate treatment is indicated before a cervix or perineal operation. If the cervix is lacerated it should be treated by trachelorrhaphy or amputation before the pelvic floor is repaired.

Where prolapse is complete the vagina and uterus should be replaced in the pelvic cavity, and where ulcers or erosions exist on the everted vaginal mucosa they should be treated by hot douches and other necessary medication, and the patient should be kept in bed until they are healed. A rectocele or vesicocele operation may be necessary, and finally repair of the pelvic floor by the appropriate operation, shortening of the round ligaments or if the patient is beyond the menopause ventral suspension of the uterus. The treatment of the causes usually relieves the sub-involution, but hysterectomy may be necessary.

There are many other secondary puerperal complications of more or less importance that could be mentioned such as phlegmasia-alba-dolens, parametritis, pyaemia, mastitis, puerperal insanity, and acute infections diseases, but time and space do not permit.

The principal points to which attention is called are the following:

The use of alcohol as an intra-uterine antiseptic, immediate examination for and repair of laceration; the upright or sitting position in which to make examination to learn extent of prolapse, and the knee-chest or Sims position to replace a retroverted uterus and adjust a pessary.

DISCUSSION.

H. H. Grant, Louisville: I have been asked to say a few words on this subject. There are two points that should be considered by an audience of this kind. We are obliged to realize that there is a time and place for everything, and we cannot expect here to be instructed in obstetrics and gynecology, and there are only a few points that as general practitioners we may regard as of practical interest in connection with this subject. One of these would be the question of immediate treatment of the patient directly after the puerperal state, with respect to traumatism that has obtained during that state, and secondly the treatment of septic conditions. I think it is well for us to remember with respect to the immediate surgical treatment of these traumatisms that as much harm can be done by improperly directed surgical treatment as by the carelessness that allows these women to have sepsis, and the temptation of those who are not prepared to do extensive surgical operations gives an opportunity which should be resisted, where the practitioner does not feel he can do as much good as he might do harm. For this reason, I would say of recent cervical lacerations they can be managed by a competent hand and should receive prompt surgical treatment, but those in which the attending physician feels he is not prepared properly to cope with had better be treated on the expectant plan until proper surgical aid can be obtained. Just what this should be will depend upon the surrounding condition, upon the knowledge of the attending physician, and upon the facilities he has and practically upon his own conscience in a very large proportion of cases.

I feel it is just as well to call attention of the general practitioner to the fact that the very best surgical skill is often misdirected and the very best results that are hoped for are not obtained in experienced hands and as much is undone by improperly executed operations as may be corrected where an operation has never been undertaken at all. For this reason, the attending physician is not a censor of himself. If he is confronted by conditions of this kind and believes that a secondary operation is essential, and realizes that he is not properly equipped, it is better for him to not undertake it.

With respect to the septic condition, there is one word I would like to say here. The essayist in his opening remarks stated such conditions could be prevented by proper attention and care. My own observation has been that in many instances septic infection occurred without its being possible to trace its cause and where the greatest care and precaution has been taken. For this reason, I do not think the attending physician should censure himself unless he realizes that some error of his own has been made.

Otherwise he is not to be censured for a septic condition that may creep in, especially where he has taken such precautions as the surroundings would enable him to take.

Care should be taken where chills and fever have occurred after abortion or at full term to see that nothing is retained within the uterus, and the exploration should be made with the finger or with a blunt instrument or with a blunt pair of placental forceps. Under no circumstances should acute conditions be everted, and the fingers, where a patient has gone the full term, make the simplest and safest method of exploration. The physician should satisfy himself that he has removed all loose pieces of placenta or other debris, and afterwards resort to irrigation which was suggested by the essayist. This irrigation may consist of warm water or one may employ a weak solution of iodine. You may use 10 per cent. of iodine in the uterus for the first irrigation as early as possible after the development of the septic condition. This has seemed to me a satisfactory means of removing the septic material and preventing its absorption.

A. D. Willmoth, Louisville: I want to emphasize the first remark made by Dr. Grant. As to infection following labor, if we are to consider that the attending physician at each accouchement is responsible for the infection that occurs in that woman, the medico-legal committee will be much busier in the next few months than it was reported as being last night. If the reports are correct, that nearly 80 per cent. of the women who come to the operating table for abdominal conditions are the results of social diseases, I fail to see why the obstetrician is responsible for such a large per cent. of the infection that follows labor. Certainly, it is true, many of the tubes lying in a dormant condition, are lit up by the contractions of the uterus during the expulsion of the contents of the uterus, and if the infection is set free in the abdominal cavity, it is something over which the attending physician has absolutely no knowledge or possible method of control. His only hope is to sit the patient up in bed at an angle of near 40 degrees and keep infection within the lower pelvis and prevent rapid absorption. This is worthy of mention and emphasis, and let enough stress be laid on the point to the public that we are not responsible for everything that happens.

The second point I want to speak of is with reference to the employment of the curette. It was also touched upon by Dr. Grant. I do not believe the use of the curette is ever justifiable within an infected uterus. You should go in with the finger. You can clean out with the finger any retained secundines that are there, and you do not open up any of the lymphatic mouths which will hasten the absorption of the septic material within the uterus. After it is once in-

vaded by you, the employment of hot saline solution, or a weak iodine solution, as the previous speaker referred to; together with application if you desire of packing of the uterus with iodoform gauze, which will give you a constant supply to the uterine wall, of a small amount of iodine, for the next few hours by lubrication of the iodine set free from the gauze. This will give you all you can hope for from medical treatment, or local treatment. If the infection is localized within the pelvis, operative work might be of benefit, but the number of cases is rare where the uterus should be invaded where infection has taken place. In those cases where we think the condition is local, it is the hope of the surgeon to control the thrombo-plebitic condition in the pelvic cavity. This however can seldom be done.

The next point of interest is the use of vaccine. I believe in these cases the use of vaccines is of untold value. You can certainly get results in many instances by the proper application of stock vaccines, and if you are prepared you may use autogenous vaccines, and if time should permit they are of course preferable.

Edward Speidel, Louisville: I would not like to leave the complete discussion of the treatment of puerperal infection in the hands of the two surgeons who have preceded me. I am more conservative than both of them. The conservative treatment of puerperal infection consists in strict antisepsis and under anesthesia of the full gloved hand being introduced into the uterus and by the aid of the other hand upon the abdomen palpating the entire surface of the uterus and removing anything within its cavity. No instrument of any kind should be used in a puerperal uterus. This is followed by hot intrauterine douches, whether hot normal saline solution or 10 per cent. iodine solution matters not, and the uterus is left severely alone. It is dangerous to pack a full term puerperal uterus with a tampon of iodoform gauze that would be necessary under such circumstances for fear of iodine poisoning or iodoform poisoning. The uterus should be left entirely alone and the further treatment of such cases should be conducted as we would conduct a case of typhoid fever. That in some instances vaccines have proven beneficial in cases of this kind is true, and they may be used in addition; but the main point is this: the uterus if entered at all, should be entered once only, and only one intrauterine douche should be used. The latest text book issued by De Lee, of Chicago, goes further than that. He does not advocate any manipulation of the uterus whatever, even if it is known portions of the placenta have been retained. He claims the portions of placenta soon become necrotic and after fatty degeneration escape from the uterus, and more danger and more harm are done the patient by the intra-

uterine manipulation than can be caused by the small amount of retained tissue.

Leon L. Solomon, Louisville: It is but natural that the argument touching the complications, that arise in the sick room following the puerperium, should take the direction of least resistance namely that of possible infection of the endometrium and the other pelvic contents, thereafter.

There came under my observation, some 5 or 6 months ago, a lady 43 years of age who had ceased to menstruate for some several months preceding my visit to her. Her presumption was, she had been pregnant, and ours was also that she had been pregnant.* The leucorrhœal discharge besides blood, contained elements found only after pregnancy. On account of the size of the uterus and the profuse hæmorrhage that followed it was determined to use the curette, and it was explained to the members of her family that it might be necessary to remove the organ as we felt there was a possible malignancy. The curette finding evidences to justify such a conclusion in the endometrium, hysterectomy was undertaken. The hæmorrhage had been so profuse for weeks before the operation and was so great during the operation that haste was necessary. The uterus was removed, and the pathologist handed in his report several days later of "apoplexy uteri," a condition which according to my reading, is quite unusual, and modern from the pathologic viewpoint.

I report this in conjunction with the discussion of Dr. Piper's paper, pertaining to the "puerperium and the complications accompanying it," and incidentally want to say that on account of the profuse hæmorrhage and the hurry, necessary to get the lady off the table alive, unfortunately both ureters were tied, a most unfortunate condition, as you can well imagine. No urine was voided, and after 36 hours, a ureteral catheter was passed proving both ureters entire occluded. The occlusion was removed, under difficulty, hæmorrhage again complicating our efforts, and being most profuse. The patient, not being able to withstand the shock of second operation and coincident loss of blood, perished as a result of it.

I report this case, not on account of this unusual complication in surgery, followed by fatal termination, but because of the interest, which attaches to the diagnosis of "apoplexy uteri," made by a very competent pathologist.

J. K. W. Piper, (Closing the discussion): I appreciate very much the discussion my paper brought out, and I have very little more to add except to say that my remarks in regard to curettment of the uterus must have been misunderstood on the part of some. I do not advocate curettment of the uterus after the delivery of a full term child, nor if it has advanced a material time,

but abortions frequently occur at one or two months and unless a man has a longer finger than I have, and a smaller one, he cannot always get into the uterus. Sometimes particles are left which are better taken out than allowed to remain. I mentioned the use of the dull curette but certainly no well informed man would use one and scrape sufficiently hard to do damage. He should use a small, dull curette or placenta or sponge forceps for removing particles which remain in the uterus after early abortions, but not after full term labor. If there has been a possibility of septic infection the use of the above instruments should be followed by an intrauterine douche of some mild antiseptic followed by normal salt solution.

MODERN METHODS OF INFANT FEEDING.*

By GAVIN FULTON, Louisville.

The manifold advantages of maternal nursing and its superiority over any other known method of feeding is self-evident and the scope of this paper will not include a discussion of this phase of the subject.

Suffice it to say that in spite of the alarming increase in the number of bottle fed babies only about 8 per cent. of the entire number legitimately belong to that class which will require other nourishment than is furnished by the maternal secretion. Clinical experience bears out two facts, namely: that the breast-fed baby is far better equipped to withstand the dangers and exigencies of the first nutritive period than the one which is artificially fed, and that the mortality from gastroenteric disease is about three times as high in the latter as in the former, perhaps even higher. It therefore seems that a free discussion of the present methods of artificial feeding would be prolific of interest to us all.

In approaching the subject I shall group all the proprietary foods, whether of malted grain, dried milk or what not, into one class and dismiss them with the statement that in the writer's opinion no one of them is capable of meeting the requirements of the growing infant and that their use is only justified in certain emergencies, and for a short period of time. To me artificial feeding just means one thing; the modification or adaptation of cow's milk to meet the requirements of the individual infant.

As breast milk is the only food which perfectly fulfills the necessities of tissue growth and development so, in preparing a modification of cow's milk successfully, we must approach as near as possible the percentage of

*Read before the Kentucky State Medical Association, at Bowling Green, Wednesday, September 3, 1913.

the food elements as they are found in normal breast milk. There are several methods for modification in vogue at the present time, all having their enthusiastic supporters among prominent pediatricists of the country. But no matter how they differ in the manner of their preparation they all depend upon two fundamental factors: First, a knowledge of the percentage relationship of the various food elements; Second, the calories to be obtained from their combination in definite quantities.

Top-milk mixtures, separated cream and skim milk mixtures whether prepared at home or in especially equipped laboratories are open to the same criticism, namely, the amount of handling necessary in their preparation increases the bacterial count to a great extent and encourages secondary changes in the milk which are not always noticeable at the time. Separated and gravity cream do not present the same chemical and physical arrangement of the fat globule as is found in the breast milk or even in whole cow's milk. Thus the infant is liable to a fat indigestion even when the fat percentage is suited to its apparent needs. Lastly, because of the general teaching of a few years back, that high fat mixtures would prove a panacea for dietary constipation and wasting of marasmus and allied conditions.

These methods make it too easy for the tyro or unthoughtful who raise the fat percentage to a harmful degree even to a healthy child. I remember a case of an emaciated, anemic infant four months of age which was supposed to have tuberculosis. It was being fed an incredible mixture containing 6 per cent. of fat, 8 per cent. of sugar and 5 per cent. of proteid. It had an elevation of temperature, vomiting, eructations, green acid stools and was losing weight rapidly. As soon as the digestive tract was thoroughly cleansed and the infant put on a suitable combination, the symptoms subsided and it began to gain in weight and the tuberculosis (?) disappeared.

The method to which I particularly desire to call your attention to-day is the one known as the simple dilution of whole milk. This method is based upon the premise that average whole milk contains the following percentages: 4 per cent. fat, 4.50 per cent. sugar, 3.50 per cent. proteid and the dilutions are made so many parts in 20. Thus if 20 oz. of whole milk contains the above percentages, then 1 oz. in a 20 oz. mixture will contain one twentieth of this amount which would be .02 per cent. fat, .225 per cent. of sugar, .175 per cent. of proteid. The above figures being established it becomes an easy matter to bring the percentage to any desired point by increasing or decreasing the number of ounces

of whole milk in twenty. This applies to the fat and proteid contained but the sugar percentage would always remain disproportionately low. In order to overcome this difficulty simply add enough sugar solution to the diluent of the mixture to bring up its sugar percentage to the desired point. This can be done in the following manner: If a 1 oz. in 20 mixture contains .225 per cent of sugar then a 10 oz. in 20 mixture would contain 10 times as much, which would be 2.25 per cent. Now if the desired sugar in this mixture was 6 per cent. you would readily see that it would be necessary to add of sugar solution the difference between the percentage desired and that obtained from the milk, which in this case is 3.75 per cent. In order to determine how much sugar this would be in actual weight simply multiply the amount needed which is 3.75 per cent. by the total number of ounces which is 20, and the result will give you the sugar in ounces necessary to complete the desired percentage of the total mixture.

If for purposes of convenience, such as lack of scales to measure ounces or parts of ounces, it should be desired to reduce this again to level teaspoonfuls, then multiply the above sum by 8 and this will give you the total number of level teaspoonfuls needed.

The percentage of fat and proteid in any given mixture can be recognized at a glance by following these very simple rules: Multiply the number of ounces of whole milk in a given mixture by 2 and this will give you the fat percentage in the mixture. Then remember that in simple dilutions, the relationship between fat and protein is always the same no matter how strong or how weak the dilution; namely as 8 is to 7, so that the protein percentage will be approximately one-eighth less than the fat. Example: A mixture containing 10 oz. of whole milk in 20 according to this rule would contain 2 per cent. of fat, 1.75 per cent. of proteid. On the other hand the reverse rule is equally true. In order to determine how many ounces of milk it would be necessary to use in a 20 oz. mixture to make a certain percentage, simply divide the desired fat percentage of the mixture by 2 and the result will give you the number of ounces of whole milk needed.

Example: A mixture containing 2 per cent. fat, 1.75 per cent. of proteid, 6 per cent. of sugar divide the fat percentage by 2 which would give you ten, the number of ounces of whole milk needed, then bring up the sugar percentage to the desired point as described above.

To make a 30 oz. mixture, increase all the proportions of the 20 oz. mixture one half,—to make 40 oz. double the amounts of 20 oz. mixture and so on as desired. This method

when once acquired has many advantages over other methods. In the first place its simplicity of preparation, ease of reckoning percentages without the use of complicated mathematics or laborious tables, the facility of changing the percentage up or down as desired by adding or subtracting an ounce of milk and the ability to furnish the fat globules of whole milk in their original form. Lastly the impossibility of making an extremely high fat mixture. The one objection to the method is the fact that the relation between the fat and the protein will always be the same and in the instance when high fat in proportion to the protein is desired, it would not be applicable.

The kind of sugar to use in milk mixtures for infants is still a vexed and mooted question. I believe the majority of infant feeders still prefer milk sugar in their practice. Up to two years ago the writer held this view also. Since that time, however, I have modified my opinion and have changed over to the routine use of cane sugar as has been advocated for so many years by Jacobi, replaced as occasion indicated by maltose. Personal experience has satisfactorily demonstrated to my mind that milk sugar does not practically bear out its theory. We know for instance that it is a much less staple sugar, that it favors lactic fermentation and encourages bacterial growth, and its constant use certainly increases the tendency to intestinal fermentation and sugar indigestion.

Cane sugar on the other hand is a preservative and retards these changes in the milk. It furthermore is just as readily split up into the end product of glucose and thus assimilated by absorption with no great strain upon the sugar splitting functions of economy. Since the first of January I have used the simple dilutions with cane sugar addition exclusively both in my private practice and in the clinics of the Babies' Milk Fund Association of Louisville. It has been my rule to start with a 5 oz. in 20 mixture containing 6 per cent. of sugar according to the age, weight and condition of the infant. Thus a healthy baby up to

- 1 month, would get 5 oz. in 20
- 2 months, would get 7 1-2 oz. in 20
- 3 months, would get 10 oz. in 20
- 4-5 months, would get 15 oz. in 20
- 6-7 months, would get 18 oz. in 20

Of course these figures would be changed up or down in accordance with the need of the individual baby, and no change would be abruptly made from one formula to another but the mixture would be increased 1-2 or 1 oz. at a time until the next formula and

strength is reached. It will be seen that as far as percentages are concerned this method leans about midway between the two extremes, the high fats on the one hand as advocated by Rotch and the high proteid as advocated by Finkelstein on the other hand. I have found that a larger number of infants will tolerate and thrive on a higher proteid than I formerly thought and as proven by Finkelstein, the protein content of infant food is far less frequently a factor in the nutritive disturbances than was formerly believed.

After having decided upon the percentage to be used in a given case it is then necessary to remember the caloric requirements in the case. According to Huebner's energy quotient, the growing infant during the first three months needs approximately 45 calories per pound of its weight. During the second three months 40 5-10 calories per pound of its weight, during the last six months about 36 1-2 calories. Generally speaking we may say that the average infant during the first year of its life requires in its food balance about 40 calories per pound.

It is a very simple matter to determine the calories to be derived from any given mixture. One oz. of whole milk in a mixture furnishes 21 calories. One oz. of dry sugar, whether it be lactose, cane sugar, or maltose, furnishes 120 calories. By adding together the number of ounces of whole milk contained in mixture and multiplying by 21, the calories furnished from the milk are obtained. Then add 120 calories for one ounce of sugar and proportionately each part thereof. Example: A whole, 10 in 20 mixture, 6 per cent. sugar, 10 oz of whole milk would give 210 calories and 3-4 of an oz. of sugar necessary to bring the mixture to 6 per cent. would furnish another 90 calories making a total of 300 calories supplied by 20 oz of the 10 in 20-6 per cent. sugar mixture. Divide this by 40 and you would have a 20 oz. mixture furnishing sufficient energy to supply a 7 1-2 pound baby 24 hours food.

The objection to this method of estimating the caloric value of a given mixture is that the energy power is figured from the mixture as a whole and it is impossible by this means to determine how many calories are furnished by the fat and carbohydrates and how many are furnished by the proteid. When this is desired, Moorehouse's rule is very satisfactory, and as it can be found in any text book, I shall omit it here. While it is true that all mixtures should have a caloric value approximating 40 calories per pound of weight it should be remembered that the caloric value is secondary to the percentage needed. The baby during its first year develops and gains nearly three times its birth weight

so that it is not only necessary to figure on the food supply containing enough nitrogen to make a complete balance of weight but also enough increase to allow for cell proliferation which is growth and development; therefore the proteid should be called upon to furnish little if any of the heat and energy required.

You may have a mixture containing correct caloric value, enough protein to care for the daily balance and the increase in growth and yet the infant remain at a stand still or even lose weight and still have no digestive symptoms. The explanation here would be that a sufficient supply of the protein given would be used up rapidly to repair waste and the excess would then be utilized in furnishing heat and energy which is not the legitimate province of protein. In other words the heat and energy production which should be performed by the fat and sugar has been thrust upon the proteid because of an insufficient amount of the two former elements, in the mixture, and so you can readily see the importance of the proper balance of the relationship between the fat, sugar and proteid. In many cases this can only be determined by the careful study of the stools verified by the clinical symptoms of the indigestion.

When the infant shows signs of fat indigestion the fat percentage should be lowered and the sugar required to furnish the greater part of the heat and energy. When the indications are of sugar indigestion or sugar and fat indigestion combined, the fat percentage should still be lowered and the sugar changed to maltose or even excluded entirely for a short period and the brunt of the work put on the proteid for the time being. In cases of fermental diarrhoea and sugar intoxication where it is necessary to change to malt sugar I have adopted the following plan with most satisfactory results. I substitute any good malt extract for the cane sugar in the mixture, in the following manner: It has been demonstrated, first I think in the Babies' Hospital, New York, that one dram of malt extract in a 20 oz. mixture increases the sugar percentage .06 per cent. With these figures in mind it is very easy to bring the mixture to any percentage desired simply by adding so many drams of the malt extract to every 20 oz. Below I will quote a series of cases ranging in age from birth to 1 year including healthy babies, babies suffering from various forms of indigestion, syphilitic marasmus and inanition which were fed exclusively in the manner I have attempted to describe above:

Summary of 24 cases treated at the Children's Free Hospital, Louisville, Ky., June 1 to August 1, 1913: 14 lived, 13 doing well, 1 unimproved.

Age: 10 under six months, 4 six to twelve months.

Diagnosis: 6 difficult feeding, 2 Rickett's, 3 malnutrition—gastroenteritis, 1 bronchitis, 2 syphilis.

Ten died—Age: All under six months.

Diagnosis: 1 broncho-pneumonia, 4 gastroenteritis—malnutrition, 1 pertussis, 4 syphilis.

Summary of 49 cases treated at Babies' Milk Fund Association, Station No. 2, January 1 to August 1, 1913: 25 under six months, 24 six to twelve months.

No deaths.

Average increase in milk: Two oz. per week up to normal age and condition requirement.

Average gain in weight of the 25 under six months of age, 4.4 oz.

In the first series of cases reported I wish to emphasize the fact that all the cases were **forlorn hopes**, three dying in thirty-six hours after admittance and two before the end of the first week, and any case saved should be considered a distinct gain.

DISCUSSION.

B. S. Rutherford, Bowling Green: I would like to ask the author of the paper if he has had any experience with lactic acid bacillus in the treatment of these cases.

Gavin Fulton: I have had quite considerable experience in the last two years with the use of lactic acid in the treatment of gastro-enteric diseases, but I did not bring that point out in the paper because I wish to mention the method of feeding. I have seen wonderful results from the use of lactic acid in the beginning, in that the stools change in from 24 to 36 hours. It is a routine practice with me to give lactic acid in gastro-enteric disturbances, although I did not mention it in connection with this paper.

J. R. Morrison, Louisville: I am sorry we did not have a larger audience to hear Dr. Fulton's paper, because this is a very important subject during this time of the year, and many of you can hardly appreciate, unless you study the charts, how easy it is by this method to feed normal infants. If you get the right patients from the start, those that are not over fat or over sugar fed, you will find this is an easy method.

At the Babies Milk Fund Association, I have had 60 patients coming there that are doing well this summer, and we have only five modifications they put out in the laboratory. The rest of the cases were in the families of the most ignorant people who could hardly speak the English language, and they make their modifications at home under the direction of the nurse. We had extremely few cases of diarrhea this summer, much less than in private practice.

Another thing the essayist brought out was the

caloric method of feeding. You should not go by the personal method of feeding alone, or by the caloric method of feeding, whether the food is agreeing with the child and it is gaining weight and doing well, whether it has the right food, but we must know something about the caloric value of the food, and it is certainly easy to estimate the caloric value because if you remember, a quart of milk represents 700 calories and an ounce of cane sugar represents 120 calories. You can easily find out what portions you are taking and add them up and find out the calories without any complicated method, remembering the figures which are considered to be accurate. You can then tell whether the child is getting too little food or too much food in a few minutes. This is a simple method of feeding.

In the last two years in the Babies Milk Fund Association we have had better results than when we used complicated fat mixtures. The babies have not died. They have grown fat, have cut their teeth earlier, and everything looks more favorable.

I want to emphasize that this is a simple and accurate method of feeding.

As regards the use of lactic acid, I have tried it in the treatment of diarrhea. In some cases it is efficacious but in talking about the treatment of diarrhea, you cannot get away from castor oil and diet.

PUERPERAL ECLAMPSIA; CAUSE AND TREATMENT.*

By EDWARD SPEIDEL, Louisville.

It is well to state at the beginning of this paper that the cause of eclampsia still remains a mystery. Our present knowledge of the condition simply consists of numerous theories that have been demonstrated and propounded by one set of investigators, only to be more or less completely refuted by others of equal merit and standing. All authorities, however, seem to be agreed upon the fact, that eclampsia is not a disease of the kidney *per se* and that as far as we now know the condition is due to faulty excretion on the part of the mother, allowing some poisonous product or toxin to be absorbed and accumulated in the circulation and being carried to the various parts of the body to produce that pathology and to give evidence of such symptoms as we recognize as eclampsia.

The dispute as to the origin of these toxins has practically dwindled down to the question as to whether they are of fetal or maternal origin.

It was claimed at one time the poison was produced in the placenta and emulsions

of such placenta injected into rabbits produced thrombosis, convulsions and death but later it was found that the same thing occurred with normal placenta.

According to another theory certain toxins are thrown into the circulation by the fetus in all pregnancies and that the ductless glands create antibodies to counteract their deleterious influence. When the ductless glands do not functionate properly then their toxins accumulate and result in eclampsia.

Those considering the condition of maternal origin, ascribe it to a hepatotoxemia, claiming that the toxins in the maternal blood due to the pregnancy are first conveyed to the liver, where they are converted into substances fit for elimination by the kidneys. If the liver does not functionate properly then these poisonous substances remain in the circulation and are even enforced by those in the liver, and as a result the kidneys, central nervous system and the capillaries are irritated and we have the symptom complex known as eclampsia. The main proof of the fetal origin of these toxins is based upon the fact that the symptoms in most instances disappear upon the death of the fetus, and that the convulsions generally cease after delivery.

The great similarity between eclampsia and parturient paresis in cattle, has given rise to the latest theory as to the etiology of this disease. It is claimed that the pathological findings in both of these diseases are so similar that it may be assumed that the same cause is responsible for both. In parturient paresis of cattle the mammary glands have been found responsible for the condition and treatment applied directly to them such as distention with air or oxygen has been followed by a rapid cure in most instances. The relation between the mammary gland in woman and eclampsia has, however, not been established and there surely is no room as yet for the extremely radical procedure of amputation of one or both breasts, for eclampsia as advocated by some of the most rabid exponents of that theory. In fact there are again so many points of dissimilarity between the two conditions that their relationship is rendered extremely doubtful. Recent investigations have shown the following points of difference. Eclampsia occurs most frequently in primipara. Parturient paresis occurred in primiparous cattle only six times in a thousand cases. Eclampsia occurred in all kinds of surroundings, parturient paresis only in badly housed cattle. Eclampsia occurs independent of diet, parturient paresis especially in overfed cattle. Eclampsia is not contagious whereas parturient paresis will often spread through a stable. Eclampsia is char-

*Read before the Kentucky State Medical Association, at Bowling Green, Thursday, September 4, 1913.

acterized by convulsions, parturient paresis never shows convulsions. Under the circumstances it is fair to assume that the mammary origin of eclampsia is still a matter of doubt at least.

The prophylactic treatment of this condition is based of course upon the assumption that the pregnant woman is in charge of her physician for at least three months before confinement and as this is true in only a small minority of labor cases at present, it is futile to go into great detail in regard to this part of the subject.

Careful attention to all that is included the hygiene of pregnancy should bring a woman to full term in safety in the majority of cases. Careful and frequent examination of the urine should be resorted to especially in the last two months, noting the total excretion in twenty-four hours and the percentage of urea. This is now considered of more importance than the detection of small quantities of albumen. A record of the blood-pressure is a valuable aid in prophylaxis, especially in those obscure cases that do not show the ordinary kidney symptoms. A blood pressure above 135 m.m. should be recognized as a sign of danger, if above 150 m.m. as indicating danger of eclampsia and if in addition attended by beginning blindness as a positive indication for interrupting the pregnancy in order to protect the mother from eclampsia.

In the curative treatment, the profession is unfortunately again divided into two camps, one class advocating immediate delivery, and the other noninterference. As the condition is undoubtedly due to the presence of a fetus in the uterus of the mother and as the eclamptic attacks in most instances cease after the delivery of the child, therefore the advocates of the active treatment claim that delivery should be effected at once under all circumstances. Those believing in the more conservative policy claim that forcible delivery is an added shock to a patient already in profound shock, secondly that the eclamptic condition generally brings on labor and relaxation of the cervix and in due time delivery takes place without resort to unusual measures. Those in favor of a conservative policy can follow the methods of Stroganoff, Hirst or Edward P. Davis.

Stroganoff, the distinguished Russian obstetrician, presents a mortality of only 7 per cent. in 700 cases of eclampsia, treated upon the following plan.

This method aims to prevent the convulsions by reducing the irritability of the nervous system and producing sleep by narcotics, watching over the regular action of the heart

lungs and kidneys, administering oxygen in abundance, keeping the patient under the influence of morphine and chloral, and only resorting to delivery, if absolutely necessary. One-fourth grain of morphine is first given, followed in one hour by thirty grains of chloral, chloroform being used in the mean time to control the convulsions if necessary. Another 1-4 grain of morphine is given the third hour, then chloral at intervals of three to six hours, the idea being to give sufficient of these narcotics to absolutely control the convulsions, to gain time for elimination, to await spontaneous delivery or finally to resort to any of the recognized means to that end.

Hirst's treatment which is described in detail in his text-book, is based upon the control of the convulsions with chloroform, the reduction of blood pressure and beginning elimination by veratrum viride, the use of gastric lavage and the introduction into the stomach of two ounces of castor oil and two to four drops of croton oil for brisk purgation. Hot vapor baths or the hot pack, for 30 minutes every four hours, for diaphoresis. One pint of normal saline under the breast every 8 hours for diuresis, if the veratrum viride does not effect the blood pressure sufficiently, then a resort to venesection and under ordinary circumstances allow labor to occur spontaneously.

Edward P. Davis has the patient kept under chloroform during the convulsions. If the patient is in labor with the cervix 2-3 dilated then he completes the delivery as soon as possible, otherwise he allows nature to take its course. If the patient is not to be delivered, then he resorts to venesection followed by intra-venous transfusion of normal saline, stomach lavage and hot packs. If the blood pressure still remains high then ten minims of veratrum viride are given and are repeated as often as necessary to keep down the blood pressure.

It is well to state here, that recent investigations have shown that chloroform causes the same pathological changes in the liver that are seen in eclampsia and that accordingly in this condition ether is the safer anesthetic.

It was also taught formerly, that morphine is especially contraindicated in eclampsia because it still further diminishes the secretions. One of the advocates of the morphine treatment gives sufficient of the narcotic, until the respirations are reduced to twelve a minute and he claims that the lack of secretion in the eclamptic is due to vaso-motor contraction induced by irritation of the central nervous system and under such circumstances morphine

produces vaso-motor relaxation, increased excretions and lowered blood pressure.

Zinke is another advocate of the conservative treatment and practically claims that the convulsions should be treated and the pregnancy let alone. He believes in medical measures entirely and presents statistics of thirty cases with a maternal mortality of 13.3 per cent. in which the treatment was limited to veratrum viride, hot baths, gentle catharsis and a strict milk diet.

As eclampsia is essentially a disease associated with pregnancy in the later months of gestation and as all that we practically know is that the condition is due to faulty elimination of some poison circulating in the blood, it has always seemed to me, that the presence of such a large tumor, the pregnant uterus with its fetus and liquor amnii, weighing easily from 12 to 15 pounds must interfere seriously with proper elimination, even under ordinary circumstances, therefore it has always been my custom to try to deliver the patient, as the first step in the treatment of eclampsia. Accordingly when the eclamptic attack occurred at or near term I proceeded more or less in the following manner.

Under ether anesthesia, venesection is practiced, a pint or more of blood being withdrawn from one arm. Simultaneously if the operation is being performed in an hospital then normal saline is introduced intravenously into the other arm. If the case is conducted in a private house then normal saline solution is introduced into the rectum. In this way elimination is practically begun as the first step in the treatment, as a pint or more of blood saturated with eclamptic poison is absolutely removed from the system and the rest of the poison remaining in the circulation, still further diluted by the normal saline solution introduced. Under surgical anesthesia then, with no resistance on the part of the patient, full manual dilatation of the cervix is then practiced, podalic version performed, the child and placenta delivered and the uterus irrigated with hot normal saline solution.

The opponents to delivery of the child in this condition claim that the necessary manipulations will incite additional convulsions and result in shock. It has been my experience that under deep surgical anesthesia with ether, the convulsions are controlled, the patient is completely relaxed and all the manipulations for delivery can be promptly carried out without resistance on the part of the patient. After delivery with the burden of the heavy uterus removed, it is fair to assume that the eliminating organs can functionate more effectively than before. The patient is

now in a safer condition, and further measures can now be used with more deliberation. For instance the writer prefers then to give a five grain dose of calomel followed in due time by tablespoon doses of Rochelle salts until free watery purgation has resulted, rather than resort to that drastic purgative, croton oil, which in some cases that the writer has seen irritated the lower bowel, that in later days the patient suffered more from the inflamed rectum, than from the eclamptic attack. I have met with no cases in my experience in which the patient after delivery could not take such medication by the mouth. In addition, after purgation is established, the bowel should be irrigated with normal saline solution or with plain water if the kidneys are much affected, and in this way the toxins that are set free in the intestinal canal are flushed out of the system. In addition if necessary hot wet or dry packs are used several times a day and if the urine is scanty, infusion of digitalis with sweet spirits of nitre is administered. The patient in the mean time is kept upon an absolute milk diet. If the attack occurs in the earlier months of pregnancy, then it is more advisable to follow a waiting policy and under those circumstances the writer controls the convulsions with a preliminary dose of 1-4 grain of morphine, supplemented from time to time with chloral and bromide of potassium per rectum. Elimination is then started and practiced with deliberation as outlined for full term cases and in some cases delivery is not effected until a week or two after the onset of the trouble. In all instances, however, in the writer's experience, evacuation of the uterus finally became necessary.

The value of veratrum viride in the medical treatment of eclampsia has always been a mooted point in a discussion of this subject.

Veratrum viride acts as a depressor on the vaso-motor centres, the result being a dilatation of the blood vessels and in consequence its action in eclampsia is practically due to a wide diffusion of the poison existing in the blood, in the capillaries of the system and a corresponding cardiac depression. In order to be effective and to prevent convulsions the pulse must be kept at sixty or below, so that the patient is practically too weak to have convulsions. The writer has used it effectively, in several cases, but always with dread and very much prefers the, to him, more rational method of venesection, where a definite amount of poisonous blood is at once removed from the body instead of having it scattered over wider areas as with veratrum viride. Williams tried it in a series of cases and found no advantage in its use and at times it

resulted in an alarming fall of blood pressure. Even Edgar, who is an ardent advocate of its use, states that unless the drug is used with great care, it may produce fatal results. He cites, especially, one case in which there was a fall of 146 m.m. in blood pressure in three hours, from 30 minims of the tincture and the patient was in profound collapse. The greatest difficulty in the use of veratrum arises from the fact that the various authors indiscriminately use the U. S. P. tincture, fluid extract and Norwood's tincture, all under the name veratrum and consequently the inexperienced must be greatly confused when first attempting to use it. Furthermore veratrum viride is used so infrequently that, unless the physician carries his supply in small original bottles, he is very apt to use large doses of a weak or inert preparation without result.

The writer in his treatment of eclampsia, as in all other obstetrical complications, is an advocate of surgical measures and it is his belief that no true progress will be made in that still most neglected branch of medicine, obstetrics, unless such surgical measures are thoroughly established. In spite of such a belief in surgical obstetrics, the writer can see no justification for Cesarean section in eclampsia. If the attack occurs in the seventh or eighth month of pregnancy, then the convulsions can be readily controlled by narcotics according to the method of Stroganoff, there is no indication and nothing is to be gained by a hurried operative delivery. At full term a competent obstetrician will always be able to deliver the eclamptic woman through the vaginal route under normal conditions. If the condition is complicated by contracted pelvis or obstructing tumor then it must be remembered that the operative delivery is performed on account of these complications and not on account of the eclampsia. In cases of this kind the surgeon without obstetrical experience should at least consult with an experienced obstetrician before subjecting a woman to such an formidable operation.

DISCUSSION.

Virgil E. Simpson, Louisville: While I have been much interested in the advent of Abderhalden's methods of biologic tests as applied to the diagnosis of pregnancy, I feel greater concern in the therapeutic possibilities, through its application, in the toxemias and particularly that of eclampsia. In fact, as Schwartz has well said, "the diagnosis of pregnancy is only a trifling part of this work."

In order to better understand its application to eclampsia as well as other toxemias, let us briefly recall the essentials upon which Abderhalden's

epoch-making work rests. The protoplasm of cells in one organ differs from that of others both chemically and physically, hence the difference in function.

Each cell in the body conducts its own metabolism.

Communication of products of cell activity between different organs is possible through the medium of the blood.

Under normal conditions the composition of the protein products of cell-groups entering the blood current are foreign to the blood and must be reduced to their original components, viz: Amino-acids, before they can enter the blood without disturbance.

Substances not so reduced are spoken of as blood foreign material, and the system responds to their entrance by the mobilization of ferments, commissioned to split up such foreign protein material.

Each enzyme is active only against the substance which causes its formation.

A proteolytic ferment has been found to be present in the blood serum of pregnant women and upon its presence rests his sero-diagnosis of pregnancy.

Abderhalden's theory is that free chorionic villi of an implanted ovum induce in the maternal organism a reaction which produces digesting ferments for placental tissue.

Now for the application. It is not irrational to conclude that in eclampsia the formation of protective ferments is deficient and hence intravascular digestion of placental protein is sufficiently imperfect to permit the accumulation of this blood-foreign material resulting in the symptoms-complex termed eclampsia.

Dienst has made some interesting observations on the blood changes in eclampsia. He found the plasma to be markedly deficient in albumin; even during pregnancy of otherwise normal women the amount of albumin was below normal. Coupled with this deficiency of serum-globulin was an excess of fibrinogen which results in a deficiency of antithrombin thus allowing the blood to become overladen with thrombin. Experiments showed that vessel cramp results from excessive fibrin ferment, the emunctories show inefficiency in consequence and the system becomes flooded with fibrin ferment and fibrinogen. Since the placenta produces fibrin ferment the relief from eclampsia on delivery is understood on this hypothesis.

Another interesting postulate is presented by our recognition of the pathogenic importance of secretions from pathologically altered gland substances. We must now recognize not only hypo and hypersecretion but also morbid secretion as well, which may consist of altered or unfinished substances from a gland. These not being "ripe" for the blood, as it were, act as blood-for-

eign material and in the case of pregnancy may produce the eclampsia.

These interesting findings suggest the possibility in the near future of a therapeutics with a serum from patients having large quantities of "protective ferments" or from animals so treated as to immobilize these ferments.

The chapter on eclampsia will be entirely rewritten in the near future and the subject taken out of the realm of the speculative.

Edward Speidel, Closing): I have nothing to say except the theory propounded by Dr. Simpson (Abderhalden's theory) is an extremely recent one and has not been subjected to tests as yet, consequently I did not include it in my paper as one of the supposed causes of eclampsia.

BUTTERMILK AS A THERAPEUTIC AGENT.*

By E. L. Gowdy, Campbellsville.

From the time sandal-footed solons traced the records of their culture and progress on the obelisks of ancient Egypt to the present time, investigators, whether they be poets, priests or scientists, have been searchers after the mysteries of the prolongation of life. Indeed, in ancient times the mission of the doctor was not to prevent disease but to prolong life. The really great doctors in the early history of medicine were not those who set bones, sewed wounds, shaved the nobility and cut hair, but rather those alchemists who, in their crudely equipped laboratories, divided their time between searching for the Philosopher's Stone and the Elixir of Perpetual Life. Other scientists in this early period thought this eternal life substance was something that could not be made with hands, and every schoolboy is acquainted with the name of Ponce de Leon, that aged adventurer whose last days were consumed in a search for the fountain of perpetual youth.

In spite of the high-powered microscope of science in general, the mystery of life remains about as much of a mystery to-day as it was in the days of Hippocrates. Is the little mass of protoplasm that quivers and vibrates under the microscope and that can be formed in the laboratory, Life? Is this little speck of protoplasm and the thousands upon thousands of little particles piled on top of each other the only thing that separates the ameba from the man?

The protozoa, if protected from chemie, thermic and bacteric changes, lives forever. It is true the same cell does not remain forever stationary, as after a few hours the one cell divides into two, the two into four, and so on in geometric proportion, but the origin,

al cell for this reason, while it undergoes changes, never loses its identity.

The great destroyers of the cells of the human body are the poisons that are generated in the intestinal canal by bacteria, of which the bacillus coli communis is probably the chief offender. This fact led Professor Metchnikoff, that modern Ponce de Leon of science, to believe that if something could be discovered that would counteract these poisons or destroy the bacteria we would be on the road to a long deferred old age. We are all acquainted with his lactic acid treatment, the result of his investigations and experiments.

Thus it would seem that the bacillus coli communis, that less than a dozen years ago was considered a necessary and harmless organism, associating itself with us immediately after birth and remaining with us till our dying day, was man's greatest enemy; and excluding it, except for accidental death (considering death from other bacteria accidental); we might live forever as the elixir of life is to be found in something that would overcome the toxemia of the colon bacillus. There is no doubt but that autotoxemia is the great cause of cell destruction, and for this reason, from another point of view, we must look upon the colon bacillus as our greatest friend. If it were not for something to prohibit cell multiplication the human body would soon become a monster too large for earth.

But even granting we could conquer the colon bacillus, what is the unknown, unseen and unfathomable something that causes the protozoa after it has undergone numberless sub-divisions to begin to change in size and shape till some cells go to form bone, others muscle and skin? We dissect from the body a bundle of nerves. They look alike; they are of the same cellular and chemical composition, yet some of these nerves will carry a message from the brain, others to the brain. What is it that causes the grain of corn to sprout, mature and die in one short season, the oak to live its 500 or 1000 years and man to exist his three score years and ten or a little longer before he goes to his grave with his death certificate signed "arterio-sclerosis" or some other indefinite term?

If there is any bacterium or chemical compound that can overcome the natural decay of the body (if there be such a thing as natural decay) it is still in the dreamland of science. The nearest thing thus far discovered toward accomplishing this is the lactic acid bacillus, but aside from this ultra-scientific feature, there is no doubt but that we have a powerful therapeutic agent in buttermilk. The laity have long known its value; they "feel good and grow fat on it, and indeed, it

*Read before the Taylor County Medical Society.

does contain a good deal of nourishment, but like the proprietary food advertiser, they give too much credit to the buttermilk, and not enough to the food they eat for which the buttermilk prepares the way. Painters use it for lead colic, and drunkards have long been acquainted with its value. Many doctors find it an excellent preparation, both locally and internally, in the treatment of erysipelas. Whether its action is due to the antiseptic action of the lactic acid or its property of supplying food to the infection is not known, but there is no doubt but that it is a helpful and soothing application. Occasionally we hear of a fond mother who has been brought out of the slough of despair when her marasmic baby begins to thrive on buttermilk. It is not the purpose of this paper to discuss buttermilk as an infant food except to say in passing that as such it is a disappointment. In the adult it supplies in increased amounts what nature is always supplying and in this way makes the intestinal tract better able to take care of the food ingested. The average individual has a very hazy idea of the process food goes through before the waste material is ready for expulsion. The elementary physiological facts of the phenomenon of digestion are but the beginning of that more complex physiology that is still more or less of a scientific mystery.

The intestinal tract is the home of a host of so-called normal bacteria of which the bacillus coli communis probably predominates. Just what part, if any, these bacteria might play in the progress of digestion is not thoroughly understood, but there is no question but that their activity under a number of conditions plays an important part in the utilization of food-products. The chief foods for cell nutrition are the carbohydrates and proteids; the carbohydrates which undergo changes into sugar of the six-carbon chain formation, will undergo fermentation; the proteids, in the presence of bacteria, or rather in the absence of sugar will undergo putrefaction, and in this putrefactive process the indols and skatols are formed that are so deadly to the cell. In other words, so long as there is plenty of sugar the bacteria will draw on this source of food supply and the result of this action will be an acid that might be of benefit to the human economy, but in the absence of sugar the bacteria will work on the proteid with resulting products of putrefaction. This is Metchinkoff's long life theory in which he recommends the reduction of proteid and the ingestion of lactic acid bacilli to supply an acid medium, which would inhibit, to a certain extent at least, the putrefactive action of normal intestinal bacteria. In order to inhibit as much as possible the poison forming action of the colon and other

intestinal bacteria, nature has placed a certain amount of normal lactic acid bacilli in the bowel; she goes even further: the sugars, as they split up, also form lactic acid.

Thus it would seem that the two ways to prevent putrefaction in the intestine is either to supply a large amount of sugar or an acid medium, of which the lactic acid bacillus is the most available. What is true of the colon bacillus is also true of the action of most of the pathogenic intestinal bacteria, the most important ones being the bacillus dysenteriae both of Shiga and Flexner and the bacilli typhosus.

As buttermilk is a cheap, agreeable and convenient form to administer lactic acid, we can readily understand the hope it holds out not only as an elixir of long life, but as a panacea for the acute diseases of the intestinal canal.

Wounds.—Treatment.—Treat all wounds on which great force has been exerted, and especially those contaminated by soil and dirt-covered objects, as if infected with gas bacilli. Leave open where possible and irrigate thoroughly with peroxide. Bandage lightly if at all. Inspect frequently and irrigate often. On first sign of symptom of infection, take smear and examine for *B. aerogenes capsulatus*. Open wound freely, if sutured, and if on limb place latter in bath or irrigate continuously. If condition extensive, expose field widely to air by free incisions. (Do not employ peroxide in full strength or inject in confined spaces or directly under tissues.)—Cramp.

Wounds of face and hands should be closed with subcuticular stitches, especially in women. To prevent subsequent stretching of scar, close superficial fascia with interrupted fine silk sutures before applying subcuticular stitches. After injuries to soft parts of hand, cleanse quickly by immersing in gasolene; after latter has evaporated, sterilize parts with tincture of iodine and alcohol.—Harper.

Reinfection with Diphtheria.—Reiche states that the records of the Hamburg hospital show 394 cases of diphtheria in the last seven years, in which there has been a preceding attack of the same disease in previous years. In the last two years, of the 4,761 diphtheria patients, 5.8 per cent. were known to have had a previous attack; the largest proportion, 10.9 and 15.8 per cent., were in young adults up to 25, and in adults between 25 and 50. In an additional 1.6 per cent., the second attack of diphtheria was evidently merely a relapse. The data presented confirm the absence of any immunization by a single attack of diphtheria. There were more cases of diphtheria in Hamburg in 1911 than at any time since 1895; 573 of the 4,761 cases in the last two years terminated fatally.

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ORIGINAL ARTICLES

METHOD OF ADMINISTRATION.

SOME EXPERIENCES WITH PHYLACOGENS.

By OSCAR W. DOYLE, Louisville.

In presenting this paper on the subject of some of my experiences with phylacogens, I wish it to be distinctly understood that I am not waiving, in any way whatever, my faith in autogenous vaccines. Neither, as a remedial agent, have I entirely lost faith in stock vaccines, although my experience has proven to me that the results obtained from stock vaccines do not warrant as great faith as we may have in autogenous vaccines and phylacogens. In my work, phylacogens have produced such uniform, complete and satisfactory results, that I think they may properly be supposed to be thoroughly standardized. Owing to the limit of time which one may consume with a paper of this kind (it would not be proper, especially since phylacogens are so well known and have given such widespread satisfaction) for me to take up your time in telling anything of the many reasons which may be given for assuming the standardization of this product, nor to say anything concerning the method of production.

I wish to impress upon you that it is not my desire to in any way advertise any firm, nor any line of products, but the fact that phylacogens have proven such a powerful aid in my own work justifies me in assuming that a description of my experience may prove of some assistance to any who may wish to fall in line and obtain the same results.

My experience has been confined entirely to the subcutaneous use of phylacogens. I might say I have long been of the opinion that anything which produces such a radical change within the blood current had best not be administered intravenously, unless absolute control of the patient, under hospital regime, or under conditions very similar thereto, can be obtained.

After trying numerous sites of loose tissue, I have found the most satisfactory area for the injection of phylacogens, to be the loose tissue between the scapulae, or just beneath them. In some selected cases the loose tissue about the buttocks may be chosen with advantage, although great care must be exercised to avoid too deep an injection, because of the likelihood of puncturing a small vein, thereby obtaining too rapid absorption, in which event it would be virtually an intravenous injection, an accident that will not occur if proper precautions are observed.

The size of the dose is best determined, I believe, by individual experience. Personally, I rarely begin with a dose larger than 2 c.c., although in some cases I make the initial dose much smaller. The dosage must be regulated, in a large measure, not only by the general reaction, but by the local reaction as well. The elevation of temperature, the increase in the pulse rate and respiratory rate, are invaluable aids in gauging the degree of reaction. The degree of general malaise and aching is a good guide to the correctness of the dose. I have always found it advisable, where the malaise and aching continues, to

wait from 48 to 72 hours before repeating the dose.

The precautions I have enumerated are of great importance. As I will point out to you later, the correctness of the diagnosis is most essential, and the selection of the proper phylacogen is of the utmost importance. Great care must be exercised in keeping the patient under control, not only during the time that we are waiting for the reaction from the phylacogen, but also in carrying out any instructions that we may have given them. In the presence of heart and kidney lesions, if phylacogens are used, a smaller dosage is in order; I have found it wise to keep the reaction down to a minimum.

During the menstrual period the use of phylacogens should be avoided, as it is well known that the reaction during this period is very distressing, and will oftentimes cause the patient to refuse further treatment.

I wish to cite a few results that I have obtained in a number of selected cases. In some of these cases, as a matter of experimentation, I have deviated widely from the usual methods of using phylacogens. I will also give you my experience in some cases in which the use of phylacogens has not been successful. While, on the whole, they have proven beneficial in my hands, I have had some cases that have not been benefitted by their use; consequently, I believe a recital of these will be of some value, and in citing them I will give you the reasons, as I saw them, for the failure of the phylacogens, although in some cases I could find no apparent reason. Will be frank enough, which I believe is somewhat unusual, to tell you that in two cases where they failed, I was absolutely mistaken in the diagnoses. This I think should be told in fairness to you and the remedy as well.

Group I. In a series of fifteen cases of acute gonorrhoea, the five cases composing this group were treated with phylacogen from the start, with no medicinal aids, but with instructions to the patient to drink plenty of water and abstain from alcohol in any form, together with the other usual rules governing the conduct of these patients. In each instance there was slight diminution of the urethral discharge within the first forty-eight hours, but at the end of eight days there had been no further improvement. I then resorted to the treatment described in the third group of this series.

Group II. In the second five cases, phylacogen was used from the start, together with a simple cleansing urethral irrigant, consisting of glycothymoline, boric acid and water. In this group within four days the discharge had diminished until only a drop could be seen now and then, and this condition persist

ed until, at the end of two weeks, the treatment given in the last group of this series was instituted.

Group III. In the last group of five cases phylacogen was used from the start, together with an urethral irrigant composed of glycothymoline and boric acid, and in addition the injection of a ten per cent. solution of argyrol three times a day. In this group the discharge was noted by the end of the second week. However, the treatment was continued for ten days after it stopped, and no further discharge was noted. These cases were continued under observation for four weeks, and a precautionary round of phylacogen was administered. In the other three cases, one showed a disappearance of the discharge in three weeks, and the other two in four weeks. The end results were the same as in the first two cases. Except in one case, there was no involvement of the seminal vesicles, nor, so far, has there been any evidence of stricture.

In five cases in which I used mixed infection phylacogen splendid results were obtained.

FIVE CASES TREATED WITH MIXED INFECTION PHYLACOGEN, (M. I. P.)

All of these cases, in addition to the use of phylacogen, were treated with the usual surgical care which should be given to all cases.

Case I. Mr. C. D., age twenty-five; four fingers left hand mashed in machine. Hand dressed with antiseptic dressing. At end of thirty-six hours there was slight amount of pus; temperature 99 1-2 degrees F. Examination of discharge showed mixed infection. A dose of 2 c.c. of mixed infection phylacogen was given; no reaction observed. At end of twenty-four hours, temperature was 100 1-2 degrees F., 3 c.c. was given, reaction occurred in four hours. By this I mean, the first symptoms of the reaction were noted in this time; temperature elevated to 101 degrees F. At the end of twenty-four hours the temperature was normal but another dose of 3 c.c. was given which produced the symptoms of reaction in four hours, during which the temperature arose to 100 4-5 degrees F. In five days there was no further temperature noticed but an additional 3 c.c. was given. This case made an uninterrupted recovery.

Cas II. Mr. H. S., age thirty-seven, hand mashed in machine. Not seen by physician until three days after accident. Temperature 192 degrees F. and there was a very slight discharge of pus. Three c.c. mixed infection phylacogen was given. Symptoms of reaction was very severe; in twenty-four hours the temperature was 100 4-5 degrees F., 3 c.c. was given, with same reaction and conditions noted. In twenty-four hours temperature was

normal but an additional 2 c.c. was given and in three days an additional 2 c.c. was given. Improvement made and an uninterrupted recovery.

Case III. Mr. R. O., white, age thirty; fingers right hand badly lacerated and mashed in press. Wounds irrigated with a five per cent iodine solution and dressed with antiseptic dressing. Failed to report for three days, giving as his reasons that he felt too bad to come to the physician. At this time the temperature was 104 degrees F. He was ordered to bed and given 3 c.c. mixed infection phylacogen; no reaction symptoms were noticed. At the end of twenty-four hours, temperature 105, 5 c.c. given; reaction symptoms noticed in six hours, (aching, etc.) Temperature ascended to 106 degrees F.; general symptoms were very severe. At the end of twenty-four hours temperature 103 degrees F., 5 c.c. was given reaction symptoms occurring in five hours; general symptoms severe, (aching, slight diarrhoea—temperature 106. In twenty-four hours temperature 100 degrees F., 5 c.c. again given; reaction symptoms noted in eight hours temperature 101, joint aching severe. At the end of twenty-four hours temperature was normal, 3 c.c. was given at this time; patient states that if he had any reaction it failed to wake him up. In three days 3 c.c. again given, reaction very mild. Uninterrupted and uneventful recovery.

Case IV. Miss E. K., age forty-one; furuncles of neck, right shoulder, and arm. Temperature 103 degrees F., 2 c.c. mixed infection phylacogen was given, reaction symptoms noticed in three hours; temperature 103; general aching very severe. At the end of twenty-four hours temperature 100 degrees F., 4 c.c. administered; reaction symptoms noticed in four hours; temperature 104 degrees F.; slight diarrhoea and general muscular aching. At the end of twenty-four hours, temperature 98.4-5 degrees F.; general improvement marked. Considerable improvement of the furuncles, noticed in forty-eight hours, and an additional 4 c.c. was administered with reaction occurring in four hours, temperature 101 degrees F.; some diarrhoea and aching fairly severe. This case made an uninterrupted recovery.

Case V. Mr. M. D., age sixty-five, leg badly bruised by heavy weight falling on same. A marked varicosity of both legs had been noticed for several years. First seen thirty hours after accident. Great accumulation of dirt and necrotic tissues in wound. Two c.c. mixed infection phylacogen administered; no reaction. In twenty-four hours, temperature 101.1-2 degrees, 4 c.c. administered; reaction in six hours; temperature 103 degrees F.; no other symptoms of reaction noticed. In twenty-four hours temperature 100 degrees F.; 3

c.c. administered, mild reaction noticed in four hours; temperature arose to 101 degrees F. At end of twenty-four hours temperature normal. Two c.c. was given in two days and repeated in three days. Was given 2 c.c. in two days and an additional 3 c.c. in four days. The recovery of this case was slow, chiefly, as I believe, because of the age of the patient and the bad circulation due to the varicosity.

Phylacogen was of undoubted benefit in all of these cases and while the reactions would have been greater with larger doses; I am convinced that a little larger dose, or the small dose more frequently administered would have produced a more desirable result.

In reporting two cases of erysipelas I am not going to take the time to go into the minutae. One case gave a marked result of recession and beginning convalescence at the end of forty-eight hours. The second case I mention chiefly to emphasize the necessity of a correct diagnosis. This case I took to be one of simple mixed infection and so used a mixed phylacogen without obtaining any apparent results; when I discovered that I had been entirely mistaken and had a case of erysipelas to deal with. The administration of the erysipelas phylacogen gave most happy results and in three days a most profound and marked improvement was noticed in the patient with ultimate recovery.

In three cases of rheumatism treated with rheumatic phylacogen only one had any "arthritis deformans." In this case the use of the rheumatic phylacogen was not attended by any beneficial results at the beginning, because of the failure of the patient to answer in the affirmative any questions relative to the existence of a prior gonorrhoea. After obtaining this history a straight autogenous vaccine, obtained from the urine failed to give results. However, as soon as the phylacogen and gonorrhoea vaccines were given in alternating doses, each twenty-four hours, marked benefit was noticed. One other of the cases was a straight case of inflammatory rheumatism, with marked swelling of all of the joints, and there was marked anemia. The rheumatic phylacogen gave slight benefit and upon a blood report we used the hypodermic interjection of the I. P. & S. ampules. The use of the same seemed to supply that element of the treatment which was lacking and an uninterrupted recovery was obtained. This case has been under observation for nearly a year during which time no rheumatic symptoms nor any rheumatic sequela have been noted.

In closing, I wish to mention, briefly, five cases, in which I have been using tuberculosis phylacogen, experimentally. This phylacogen is purely experimental as yet, not having

been placed upon the market, but since the results in each case have been so very similar, I thought it might not be amiss for me to mention a few facts.

In each case a dose of eight minims of the tuberculosis phylacogen was administered, and because of the prolonged aching that followed, I have never repeated the dose in less than forty-eight hours. In none of these cases has the local reaction been very marked until after a dosage of 1 c.c. or more had been reached. In each case, following the reaction, there has been an increase in the cough and in the amount of expectoration during the twenty-four hours following the injection. After this time the cough would gradually subside and the amount of expectoration decrease. After the fifth injection the cough and quantity of expectoration have not been changed to any marked degree, although every case has exhibited a constantly diminishing cough and a lessening quantity of sputum. In every case the patient has commented upon the improvement they have noted in their general condition, as well as the marked improvement in appetite. Two of these cases have been reporting regularly at my office and have shown a gradual increase in weight. Each case showed an absence of temperature during the second twentyfour hours following the injection, and where the injection was repeated within fortyeight hours, there has been no elevation of temperature except during the reaction period.

From present indications, I am of the opinion that at some future date I shall have the pleasure of reporting some very interesting statistics concerning these tuberculous cases, and to show, at least, a very remarkable improvement in each case.

DISCUSSION.

Jno. B. Richardson, Jr. The only question that occurs to me is, how the essayist arrived at the conclusion that the phylacogen was what cured his patients. I treat a good many infected cases and have never used phylacogens, but nevertheless most of them get well. In such injuries as mashed fingers, toes, etc., I depend upon the use of iodine when the patient is first seen. I do not mean to be understood as saying that the phylacogens are of no value, but the reaction following their administration is so severe that I have not used them. I depend entirely upon the use of iodine, and have obtained uniformly good results in the treatment of conditions mentioned by the essayist.

Harry J. Phillips: Dr. Doyle appears to have had considerable more experience in the use of phylacogens than have most of us. I have had some experience with the rheumatism, mixed infection and erysipelas phylacogens, and it has

been my observation that, when properly administered in selected cases, they will practically always have a beneficial effect.

The most important thing in connection with the use of phylacogens is a correct diagnosis, and especially is this true in rheumatism. We know that heretofore we have been prone to class under the head of rheumatism nearly all of the aches and pains that human flesh is heir to; we have called "rheumatism" many things that were not due to the streptococcus rheumaticus, but in conditions that are caused by this bacteria, rheumatism phylacogen will do a great deal of good. It will not, however, correct the deformity in arthritis deformans; I have never seen any benefit follow its use in cases of this kind that were advanced?

The essayist is correct in advocating small doses of phylacogens to begin with. It should be administered in small doses, subcutaneously, in order to test out any possible idiosyncrasy on the part of the patient. If none develop, then the dose can be rapidly increased.

It is true, as Dr. Richardson says, that in the majority of cases the administration of phylacogen is followed by a very severe reaction. It acts upon the central nervous system, increases the pulse rate and raises the temperature. The pulse rate is frequently increased from 30 to 40 beats, and the temperature elevated from 1 to 5 degrees. I have had cases in which the reaction was so severe as to shake the bed, and the family and friends became greatly alarmed, but I have never seen any permanently ill effects follow the use of phylacogen.

I have also given phylacogens intravenously, beginning with a small dose and increasing it to as much as 1 c.c. I believe this can be done by almost any one after a little experience. It does not require the technic that we have to practice in giving an intravenous saline infusion; the needle is introduced directly through the skin into the vein, care being taken, however, to avoid wounding the distal wall of the vein. I have done this on several occasions, and I believe almost any one can do it after a little practice.

This paper is especially interesting in view of the fact that the essayist has used five different forms of phylacogen with uniform good results. I wish to again emphasize the fact that the most essential part of the treatment is to make an accurate diagnosis; then you can select the proper phylacogen and expect good results.

Jno. D. Allen: I believe that any agent, which can so devitalize bacteria that the white blood cells can digest at least twice as many of the bacteria causing a given infection as formerly, is a good remedy. There are several agents by means of which we can increase the resistance of the patient and thus raise the opsonic index, but the most direct way to raise the index of the patient is by the administration of vaccines or

phylacogens. Phylacogen is a vaccine. The only way in which phylacogen differs from vaccine is this: a vaccine contains dead bacteria and some of their toxins; phylacogen does not contain dead bacteria, but more of the toxin than is contained in vaccine.

There are at least two different kinds of bacteria which cause the two main classes of infection; namely, those bacteria which liberate an exotoxin and those which do not. In those infections caused by bacteria which liberate an exotoxin, I think it is clearly evident that the disease condition is due more to the toxemia than to the bacteria themselves. This is plainly demonstrated in diphtheria where, although only a small area is involved, the patient manifests a marked toxemia. The same is true of infections caused by the streptococcus, gonococcus and pneumococcus. In this class of cases I think we should treat the toxemia of the infection by the use of antigen or antibodies made from the bacteria that is causing it. It is a well known fact that bacteria grown upon a bouillon culture liberate greater quantities of toxin than do those grown upon an artificial culture media. Therefore, a phylacogen containing the bacterial toxin, and made from a bouillon culture is the ideal remedy in those conditions in which there is a marked toxemia. However, in the other type of infection, caused by bacteria which do not liberate exotoxins, the ideal remedy would be an autogenous phylacogen, or, rather, a mixture of phylacogen and vaccine. An autogenous vaccine has an advantage over a phylacogen in that we are employing a specific remedy to overcome a specific infection. It is a well-known fact that there are several different strains or types of the same class of bacteria; for instance, there are half a dozen different types of gonococci, twenty different types of colon bacilli, and the same is true in greater or less degree of various other classes of bacteria. Therefore, when we make an autogenous vaccine we get the specific type of bacteria that is causing the infection; in other words, we are using a specific remedy to treat a specific infection. Again, I do not believe that mixed infection vaccines or phylacogens should be used in cases where we can make a specific diagnosis. It has been demonstrated that the administration of a mixed infection vaccine will lower the index of the patient for a particular type of infection. Therefore, where we can make a specific diagnosis, a specific vaccine should be used.

A. C. L. Percefull: I have enjoyed Dr. Doyle's paper very much indeed. I would like for him to say in closing whether or not he has had any experience with the phylacogens in a gouty diathesis, where the joints become enlarged and painful.

J. Rowan Morrison: It seems to me there must be quite a good deal of difference between the results of laboratory experimentation and the clin-

ical experience of the many gentlemen who have used this type of remedy. In a recent article by Dr. Theobald Smith, of Harvard, he makes the statement that he does not believe a life has ever been saved by the use of vaccines, although he admits the effect of the presence of these organisms in raising the resistance of the host.

I agree with Dr. Allen when he says that we should make a specific diagnosis rather than to run the risk of destroying the power of the body to immunize itself by administering a mixture of all forms of bacteria. I have seen a number of cases in which phylacogens had been used. One man who was supposed to have been cured of "rheumatism" was later relieved of his trouble by anti-syphilitic treatment.

I hope Dr. Doyle will have better results in the continued use of the tuberculin phylacogen than did Dr. Barnes of the Rhode Island Sanitarium, who reported something over a hundred cases in which he had used tuberculin, and stated that he had obtained just as good results in cases where he did not use it.

In one of his medical essays, Dr. Wendell Holmes tells us of the "Weapon Ointment," an ointment that had great favor in the olden times. It appears that this idea originated first somewhat in the following manner: If one was wounded with a weapon of any sort, it was believed that the application of the weapon to the wound would be very helpful. Later the idea became prevalent that it was not necessary to apply the weapon that caused the wound, but an image of a similar weapon would do as well, and later it became prevalent to make ointments and apply to the wound. Finally some medical man decided that it would be better to put the ointment on the image of the weapon after washing the wound in clean water, tying it up in clean cloths. However for a long time it was very prevalent to apply the ointment to the image. The ointments were made of various and sundry substances, some apparently very wonderful. For instance one is described as containing the moss from the skull of a man hanged in chains, and various and sundry substances equally as absurd.

Lord Bacon, whom we all know was a very wise man for his time, speaking of this "Weapon Ointment" said that he was not able to convince himself that it was of any service at all, but on the other hand he was not able to say it was useless, because so many persons of knowledge seemed to think that it was of benefit.

It seems to me that in these days and times we are in somewhat similar quandary concerning the administration of some of these new biological products.

Dunning S. Wilson: I was particularly interested in the essayist's reference to the use of phylacogen in tuberculosis, because we welcome with open arms anything that promises to aid us

in the fight against this dread disease. There are one or two suggestions I would like to make to those who are trying out phylacogens, or any other remedy, in connection with tuberculosis. First, a period of at least two years must elapse before we can draw any definite conclusions as to the benefits to be derived from any remedy. Secondly, there must also be a control group of cases that are not taking the remedy, as nearly similar to the other group as possible. Furthermore, in each case a thorough examination must be made, as well as careful analyses of all the secretions of the body in order to preclude the possibility of any other disease being present. I think we can depend upon Dr. Doyle bringing in an opinion only after the foregoing essentials have been faithfully observed. The observation of three or four cases over a period of five or six months is absolutely worthless; especially if examinations of the chest are not made at regular intervals. Furthermore, the improvement must be real; not apparent. We care nothing about a gain in weight or a diminution in expectoration; they are but symptoms. What we do care about is the amount of healing of the lungs that has taken place. If that can be brought about by the use of phylacogens or anything else, we should be very glad indeed to have it presented to us.

Oscar W. Doyle, (Closing): I wish to say in explanation that I simply mentioned the use of tuberculosis phylacogen because it is entirely an advance in the treatment of this condition. I agree with Dr. Wilson that we cannot be too careful in reporting the results obtained from any remedy in the treatment of tuberculosis. I very frankly tell every tuberculous patient that comes under my care that I will be unable to give a prognosis of any kind under one year, and I believe two years should elapse before we can say that we have been able to obtain any permanent results. Of course, it is only natural, when we see apparent improvement result from any given remedy, to allow our enthusiasm to rise to a point from which we may get a very sudden and hard fall.

I have not attempted to in any way compare the results obtained from phylacogens with those of autogenous vaccines. I have had some very happy results from the use of the latter, and I tried to make it plain in the paper that I have not wavered in my faith in them.

Like Dr. Richardson, I have had some very good results from the use of iodine in the treatment of infected conditions, but in many cases in which it was not efficacious I have been able to get the desired results from the use of phylacogens. "The proof of the pudding is in the eating thereof," and the prompt response to phylacogen in cases in which the use of iodine had not been effective, certainly tends to prove that the phylacogen produced the results claimed for

it. As to the reaction, in the majority of cases I administer small doses, and I have not observed that it has been followed by such severe reactions as are reported by some men. I believe that large doses are nearly always responsible for these severe reactions, and they are apt to destroy the patients' desire to take the treatment.

No one will contend that phylacogen is a cure-all, although the man who originated them might naturally be expected to be more enthusiastic than others who have not had the same results that he claims to have had.

I have had no experience with the use of phylacogens in a straight gouty diathesis.

I agree with Dr. John D. Allen in every point he raised in his discussion. He mentioned the most important feature in connection with the use of phylacogens; namely, a correct diagnosis. We are not justified in administering any form of phylacogen in a case where we have not been able to establish an accurate diagnosis.

I have had some unusually brilliant results from the use of phylacogens, and I have had some equally brilliant results from the use of autogenous vaccines, and I hope to some day be able to compile these cases and compare them, each with the other.

THE CAUSE OF INGUINAL HERNIA,
WITH SPECIAL REFERENCE TO
THE RELATION OF THE LONG
OR MAIN AXIS OF THE AB-
DOMEN TO ITS MORE
FREQUENT OCCUR-
RENCE ON THE
RIGHT SIDE.

By F. T. FORT, Louisville.

Hernia is a subject to which I have given a great deal of thought for a number of years. Most of the literature, however, so far as I have been able to ascertain, has dealt with the cure rather than the cause of hernia. From time to time I have wondered what could be at the beginning of this common surgical condition. We all know, from observation, that inguinal hernia occurs more frequently upon the right side than on the left, and statistics show the ratio is about 2 to 1. There has been a great deal of discussion as to the reason for this, and the question whether or not all hernia are due to a congenital defect has long been a mooted point, each school having its advocates.

Macready¹ reports a series of 17,538 cases of inguinal hernia in the male, seen at the Truss Society during the years 1888-90, of which number 10,082 were right, 6,630 left, and 826 double. He states that the proportion of right to left hernia varies, not only according to the kind of hernia and to the sex, but in the

same sex at different periods of life. The great preponderance of right hernia in early childhood, and their high proportion until after puberty, has long been supposed to be connected with the descent of the testis; that is with the later closure of the inguinal canal on the right side. This influence appears to lose its ascendancy, after puberty, to some extent. The preponderance of right hernia over left has been variously explained by the use of the right hand in preference to the left, by the weight of the liver (Skenki), and by the inclination of the mesentery towards the right iliac fossa (Velpeau). The latter suggestions appear to have been accepted by the late Mr. Callender with respect to femoral ruptures, and has been applied by Mr. Loekwood to explain, as Velpeau did, the predominance of right hernia in general.

Sir Astley Cooper¹ conjectured the difference in frequency of right and left femoral hernia, was owing to greater exertion being made upon the right side. A more probable explanation was made by Knox, who thought that the cause depended upon the larger capacity of the right side of the pelvis as compared with the left. He says:

"In regard to the frequency of inguinal hernia with relation of the different anomalies of the testes, taken together, it is found that it amounts to 2.6 per cent, and the more complete the arrest of development, the larger is the proportion of ruptures in early life. In like manner, the ratio of right hernia to left is greater in each group than in ordinary cases, and the ratio is higher the more complete the arrest of development. It has also been observed that hernia, at whatever age occurring, generally, though not invariably, appears first on the same side as the anomaly."

"Though complete or partial patency of the processus vaginalis is regarded as an important predisposing cause of ruptures, at all events of those in early life, it is a fact, if evidence from examination of the dead be received, that hernia enters this passage in a minority of instances in which it remains open."

According to Joseph Warren², hernia is, as a rule, more frequent on the right side than the left, in the proportion of 7 to 4 or 5. Schinkiss thought it due to the larger lobe of the liver being on the right side; Martin to the inclination of the mesentery; Cloquet to the predominance of those who are right-handed. Malgaigne doubts that right-handedness has anything to do with the preponderance of right hernia over left and by figures seeks to show that hernia in right-handed persons are more frequently on the left. Thus of 313 inguinal hernias, forty were double, and of the 273 remaining 171 were right and

102 left; while of the 273, one in eleven was left handed.

Of 831,584 cases of hernia mentioned in the report of the City of London Truss Society³ for 1823, 24,316 males and 586 females had right, and 14,006 males and 511 females had left, inguinal hernia; the remainder were femoral.

Of 379 cases of inguinal hernia, reported by John Wood⁴, in 1886, 219 were right, 128 left and 23 double.

In a report of 4,505 cases of inguinal hernia by the New London Rupture Society⁵, in 1846, 4,382 were males, 2,509 were right and 1,873 left; females, 123, of which 70 were right and 53 left.

J. Cloquet⁵, reported 247 cases of inguinal hernia in males, of which 133 were right and 114 left; females 42, 19 right and 23 left.

Of 433 cases of inguinal hernia treated at the Leeds Infirmary⁵ from 1839 to 1841, 394 were males, of which 244 were right and 150 left females 39, 23 right and 10 left.

Of 4,852 cases of inguinal and femoral hernias treated at the New York Rupture Society⁵, 2,780 were right and 2,073 left, or 11.3 right to left.

Of 433 inguinal and femoral hernia reported by Cloquet⁵, 246 were right and 187 left.

Of 500 inguinal and femoral hernia observed at the Leeds Infirmary⁵, 300 were right and 200 left, or 1.2 to 1.

Karl Wilharm⁶, in 1902, reported his observations which covered 500 laborers who were sent to the institution with which he was connected for purpose of diagnosis or operation for hernia, and of this number 7.2 per cent. were right and 5.4 per cent. were left.

In 70 new-born males Camper⁷ found the processus vaginalis patulous upon both sides 34 times, upon the right side 14 and upon the left side 8 times.

In 100 new-born children, Engel⁷ found this process patulous upon both sides 60 times, upon the right side 30 times; and closed in all cases upon the left.

Zukerkandl⁷ examined the bodies of 100 children and found a patulous process upon both sides 20 times, upon the right side 12 times, and upon the left side 5 times.

In 108 inguinal herniae, Felizet⁷ found 63 cases upon the right and 39 upon the left.

Brenner⁸ operated upon 144 cases of hernia observed by him of which number 117 were children, among whom were 107 males, with bilateral hernia in 28; right-sided 65.

Of 115 cases of inguinal hernia reported by Goebell⁹, 111 were in males, and they were twice as common on the right as on the left.

Now, what is the cause of this more frequent occurrence of hernia upon the right side than on the left? I believe there are

four probable factors concerned in this: (1) in the production of either right or left inguinal hernia, I think there must be a congenital weakness of the inguinal canal, and I shall endeavor to show that this is greater and, therefore, more apt to result in hernia, on the right side than on the left; (2) the attachment of the mesentery in an oblique direction from the left side of the second lumbar vertebra to the right sacro-iliac joint; (3) the peristaltic wave ranging from the left to the right side and terminating in the small intestine at the ileo-cecal junction; (4) the relative positions of the leaflets of the diaphragm, the right being more or less transverse, while the left is placed more obliquely; (5) right side of pelvis being larger.

Bailey and Miller¹⁰ state that:

"During the early stages of development the testes are situated far forward in the abdominal cavity. During the eight weeks they lie opposite the lumbar vertebrae. During succeeding months, up to the time of birth, they gradually move caudally to the positions they occupy in the adult. This migration is brought about, to some extent, at least, by the influence of certain bands of tissue which are primarily like mesenteries. As the mesonephros develops and projects into the body cavity, it comes to be attached, on the dorsal body wall lateral to the dorsal mesentery, by a sheet of tissue which is called the mesonephric mesentery. Cranial to the mesonephros, this mesentery is continued as the diaphragmatic ligament of the mesonephros, which is attached to the diaphragm. Caudally it is continued to the inguinal region as the inguinal ligament of the mesonephros. As the mesonephros atrophies, its mesentery and the mesentery of the testicle are combined to form a single band of tissue, which, of course, is continued with the inguinal ligament. The latter now becomes the gubernaculum testis, a strong band or cord composed of connective tissue and smooth muscle. Its cephalic end is attached to the epididymis; its caudal end pierces the body wall in the inguinal region and is attached to the corium of the skin. The descent is brought about through the principle of unequal growth. As the body grows in length the gubernaculum grows much less rapidly, and since the caudal end of the latter is fixed, the natural result is a drawing downward of the testicle. This takes place gradually, and at the end of the third month, the testicle lies in the false pelvis; at the end of the sixth month close to the body wall of the inguinal ring."

As the gubernaculum draws the testis from the abdominal cavity, it pushes before it a pouch of the peritoneum, which afterwards becomes the processus vaginalis. In this pas-

sage of the testis from the cavity, the left reaches the scrotum first, which I believe is caused by a full or distended sigmoid pressing upon the testis from behind, and, after it has been lodged in the scrotum, continuing its pressure upon the inguinal ring, thereby causing a more complete pinching off, as it were, of the canal on the left side. At this early period of fetal life, the liver occupies the greater part of the abdominal cavity; its larger portion being on the right side possibly assists the gubernaculum in depositing both testes in the scrotum. The right side of the cavity being larger, and the right ring not having any pressure from the distended sigmoid, as on the left, it does not close with the same degree of firmness as the left.

The gut in early fetal life being almost a straight tube of uniform diameter, begins to develop more rapidly in proportion than does the rest of the body, and develops six primary coils which are pushed up into the umbilical column. A little later these coils are brought back into the abdominal cavity, the cerebral end first, which becomes fixed to the dorsal peritoneum and develops into the duodenum. The rest of the coils, with more subdivisions, are deposited within the abdominal cavity, the caudal end, which becomes the cecum, being the last to re-enter. The pancreas develops in the head of the duodenum, which remains fixed. The mesentery of the small intestine, which in adult life is 6 to 8 inches long begins on the left side at the second lumbar vertebra and runs diagonally across the abdomen to the right sacro-iliac joint. This mesentery grows in length until it averages 8 or 9 inches, and develops into a fan-shape, enclosing the whole of the small intestines, the greater number of coils being on the right side.

The diaphragm, which separates the thoracic cavity from the abdominal cavity, is, I believe, one of the greatest factors in the production of hernia. Its greater diameter is transversely. The liver is attached to the under surface of the right leaflet; to the middle leaflet from above, the pericardium is attached; the left leaflet is attached a little lower down than the right. The right leaflet, on account of the attachment of the liver, is more transverse, and any strain from above, as in coughing, or other violent inspiratory exertion, does not descend with the same force as the left. The middle leaflet, on account of its shorter attachment to ensiform cartilage and also to the pericardium, is held back, but the left leaflet, being free to act, transmits the greater amount of force from all expulsive movements, and, because of the oblique position of the left leaflet, this force is transmitted towards the right pubic spine.

The abdominal cavity is oval in shape, the larger portion being above. The diaphragm stretching across this larger portion, if it acted with the same degree of force in all directions, the main axis of the abdomen would be directed towards the symphysis pubis; but for the reasons enumerated above, I am led to believe that the long axis of the abdomen ranges diagonally from left to right, and that this deviation of the long axis, together with the more general weakness of the right abdominal ring, the fact that the mesenteric attachment passes from left to right, and that the peristaltic wave ranges from left to right, is responsible for the more frequent occurrence of inguinal hernia on the right side.

I do not believe that occupation influences the predominance of right over left inguinal herniae. In my opinion, if occupation did influence it, we would have a greater number of herniae on the left side, for the reason that, in lifting and doing heavy work, the majority of people are right-handed, and as a consequence the right leg is abducted and the left leg is adducted more frequently than the reverse, thereby more frequently relaxing the left ring and contracting the right. I further believe that, if the patency of the two rings were equal, we would, on account of the greater number of people who are right-handed, have more left than right inguinal herniae, even though the long axis of the abdomen be from left to right.

The frequency of hernia is greater than usually supposed. It has been variously estimated by surgeons of great experience, that from 1-16 to 1-8 of the human race is afflicted with this complaint. From similar sources, it has been found that about 80 per cent. of all herniae are of the inguinal variety. Now, taking these approximate figures and add to them the results of Camper, Engel and Zueckerkandl's examinations of nearly 300 newborn, mentioned previously, I think we are led to admit that nearly, if not all, inguinal herniae are of congenital origin.

From my experience in the anatomic room, I am led to believe that not in every instance where we have congenital weakness, do we have hernia; it is mostly in those cases where we have a relaxed condition of the viscera, for in the examination of intestines where there was no relaxation, it was impossible to draw the intestines through the external abdominal ring; and, again, I have seen splanchnoptosis with no weakness in the hernial region, where, after opening the body, I could draw the small intestine down below the scrotum, which I think, shows, on the one hand, that there must be a congenital weakness, plus great force, or relaxed viscera, before we can have a protrusion through the hernial rings.

CONCLUSIONS.

(1). That all inguinal herniae are due to a congenital weakness.

(2). That right inguinal hernia is more frequent than left on account of the more frequent incomplete closure of right inguinal canal caused by lack of pressure from behind and the right side of pelvis being larger than the left.

(3). That when you have a congenital inguinal weakness plus a splanchnoptosis a very slight jar or misstep will cause a knuckle of bowel to descend into patent opening producing very little if any shock.

(4). That if force enough could be applied to produce a traumatic hernia there would be great surgical shock, immediately following.

(5). That the peristaltic wave being from left to right, the larger side of the pelvis being the right, the attachment of the mesentery being from left to right and the left leaflet of the diaphragm being freer to act than either of the other leaflets the long axis of the abdomen changes when force is applied from above from the central line of the body to a line which might be drawn from above downward from left to right.

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DISCUSSION.

Jno. B. Richardson, Jr.: I do not believe a paper of this character should go without discussion. I am not prepared to discuss the various points brought by the doctor, except in regard to the statement he makes that practically all inguinal herniae are congenital in origin. In this connection I would call attention to the fact that the number of damage suits arising from herniae which are supposed to have been caused by trauma, is constantly increasing. If the medical profession in general was aware of the fact that in the vast majority of these cases the hernia is directly due to a congenital defect, this might be checked. There is not a day in which one or more damage suits are not instituted based on a hernia which is supposed to have been produced by trauma, while, as a matter of fact, true traumatic hernia is of comparatively rare occurrence.

F. T. Fort, (Closing): I have very little to say in closing. I am firmly convinced, in my own mind, that practically all inguinal herniae are congenital in origin. I had a man come into my office the other day, who had been lifting some lumber and a hernia developed. At first he said he had never noticed anything prior to this time, but upon close questioning he admitted that there might have been a little protrusion there. If this man had fallen into the hands of a lawyer, a suit for damages based on a traumatic hernia would probably have resulted. I do not believe a man can suffer a traumatic hernia without giving evidence of great shock, if it is possible at all.

PUTREFACTIVE PHLEGMON.

By CHALLON GUY FORSEE, Louisville.

Putrefactive inflammation with the formation of an exudate, which in the beginning is sero-hemorrhagic in character, and later becomes foul smelling, contains gas and is associated with putrefaction or gangrene of the tissues is indicative of infection with putrefactive bacteria.

There are a number of processes which are clinically allied sometimes the formation of gas being the most prominent and at other times gangrene.

In all these cases pyogenic infection is common—usually the role played by pyogenic bacteria is of but little consequence compared to the damage by the putrefactive bacteria.

Putrefaction is closely related to fermentation, the former is a reduction and the latter an oxidation process. The first step in the process is peptonizing which faculty most putrefactive organisms possess.

There are formed in putrefaction numbers of complicated toxic and nontoxic substances, the so-called ptomaines, alkaloids, and toxalbumins. (This feature of bacteriology was known long before the most important bacteria was ever discovered.)

The name toxin is now applied to poisons secreted by living bacteria of which peptotoxin, muscarin and neurin are examples.

The principal cause of putrefactive phlegmons belong to a large group of bacteria of which the colon bacillus, proteus vulgaris bacillus aerogenes, capsulatus and bacillus of malignant oedema are the most important.

These bacilli belong to a widely distributed group being found in dirt and dust of the street. Cases of this infection have been reported when there was heavy snow on the ground.

The colon bacilli group stands between the putrefactive and the pyogenic groups, sometimes they are found causing emphysema and usually pyogenic conditions.

The conditions essential to the development of the putrefaction are the presence of degenerative tissue, and points to which the air does not have ready access.

If the putrefactive inflammation extends a phlegmon forms which develops more rapidly and is accompanied by severe local and general symptoms than pyogenic infection are.

Often within 24 hours an entire extremity becomes so oedematous and painful that the swollen lymph nodes can not be palpated and lymphangitis which is almost always present an indicated by red streaks, can not be seen.

The skin soon becomes pale and anaesthetic and large blebs with sero-hemorrhagic contents form; black discolored areas develop and soon form into black crusts which are cast off as the gangrene spreads.

Fluctuation can not be elicited but when the tissues are palpated an emphysematous crackling which is characteristic, may be elicited. When the tissues are incised the amount of destruction can be determined.

The incision passes through an oedematous or gangrenous cutis into a grayish green subcutaneous tissue from which gas bubbles, fat and shreds of fascia exude. Muscle are found to be in the same condition.

Everywhere a gelatinous, discolored mass of tissue is found from which an ichorous discharge and gas bubbles are found.

The fact that this class of bacteria is negative as to chemotaxis causing no emigration of leucocytes accounts for the character of the discharge.

Illustrative of this process, I wish to report two cases of putrefactive phlegmon:

The first, Mr. B., white, age about 30, a bartender, was seen at his residence: On examination, I found a large periproctile phlegmon. On entering his room the characteristic odor was observed, on examination a large gangrenous area around the anus was observed. This was carefully incised. The knife was reversed and the handle inserted into the phlegmon the entire depth of the history without causing pain. This was lightly packed and he was sent to the City Hospital where he came under the service of Dr. Asman. I will ask him to finish the report on this man.

Case II. W. V., colored, age about 50 years. Coachman, was referred to me by the late Dr. Marvin.

When I first saw him July 29, 1913, his entire back and neck was emphysematous.

He was removed to the Red Cross Sanitarium where the phlegmon was incised and trimmed away as much as possible and lightly packed with hydrogen dioxide and this ordered changed often. This was soon substituted by permanganate of potash 1-500. This was done because the perondi was painful.

Some of the discharge was stained and examined and it was found to be a single micro-organism which I took to be bacillus aerogenes capsulatus. Symbiosis was not present in this case for on the next examination within a week there were none of the bacilli formerly seen but a mixed infection of staphylococci and streptococci.

The area of destruction was as large as one half an ordinary grape fruit, extending from the spinous processes onto the left shoulder.

There was no history of injury in this case and the only focus of infection I could find that could be considered a possibility was a sinus of the jaw on the left side which had been caused by a decayed tooth and which had not healed though it had been 20 years since the tooth was drawn.

I do not know how this could have been the site of infection but this was the only one I could find. I judge this must have been endogenous putrefactive infection.

This man died of apoplexy nine weeks after I first saw him.

MEDICAL PROGRESS

DEPARTMENT OF GENERAL SURGERY.

GEO. S. COON, Louisville.

LEE KAHN, Louisville.

Border Line Pathological Lesions: Blood-good in Surgery, Gynecology and Obstetrics, discusses very interestingly and instructively Border Line Pathological Lesions, meaning thereby any lesion in which it is difficult to determine by the clinical history, gross appearance or microscopic section whether it is benign or malignant.

While in some instances a differentiation is unimportant for proper treatment, in many cases it is highly essential to determine whether the lesion is benign or malignant, because if malignant an extensive and radical operation offers the only chance of cure, and if benign an operation with less mutilation is sufficient.

In every series of malignant cases there is a large per cent. far advanced, inoperable, with no difficulty in diagnosis. In another group, usually the largest, the diagnosis can be made clinically and confirmed by gross appearance and microscopic findings.

In the third group, small in number but fortunately rapidly increasing are those cases, which are seen at such an early stage that none of the symptoms usually associated with malignancy are present. Clinically the tumor appears benign but on exploration is found to be malignant.

Until recent years, the number of patients with cancer of the breast applying for treatment in the early stage was about ten per cent. In the past two years the number has increased to twenty per cent. And as the profession and public become more alert and recognize the tremendous advantage of attacking these growths while clinically benign the percentage of patients applying for early treatment will rapidly increase.

That far better ultimate results are obtained in operations upon malignant lesions, clinically benign over those clinically malignant is clearly shown, provided the clinically benign lesion is operated radically and in one stage, the diagnosis being made by exploratory incision from the gross appearance with or without the aid of a frozen section.

The advantage of the early operation is strikingly set forth by statistics on cancer of the breast. "The probability of a cure when the breast cancer is clinically malignant and operable is about twenty-five per cent, while if the breast cancer is clinically benign and the radical operation follows immediately the exploratory incision, the probability of a cure is eighty per cent. However, if the malignant lump only is removed and then, later days or weeks after the microscopic examination is made, the complete operation is performed, the probability of a cure is less than ten per cent."

Thus it is seen that the two stage operation on the clinically benign cancer is far more fatal, than the one stage operation on the clinically malignant cancer. The author does not believe that the majority of surgeons fully realize the fatal error of the two stage operation, such as removal of the tumor or breast and later after microscopic diagnosis, the radical operation for cancer.

It might be argued that it would be safer to perform the radical operation for cancer in every case with lump in the breast. This would cause an unnecessary mutilation in many cases. The experienced surgeon by exploratory incision should be able to determine from the gross appearance, with or without a frozen section whether he is dealing with a benign or malignant growth.

However, the invariable rule should be that whenever in doubt the lesion should be treated as malignant and a complete operation performed. By following this rule, very rarely will the fatal error be made of treating a malignant case as benign. Probably about ten per cent. of the benign cases will by this rule be incorrectly treated for cancer, the only harm resulting therefrom being the unnecessary mutilation.

G. S. C.

Artificial Pneumothorax in the Treatment

of Tuberculosis: Murphy, in *Surgical Clinics*, presents cases and gives an extensive review of the use of artificial pneumothorax in the treatment of tuberculosis. The method according to the author is being extensively used in the tuberculosis sanatoria of Europe. The best time for giving the treatment is the same as for surgical tuberculosis in other parts of the body or during the early stage of the disease. By this means, the diseased part is put at rest, the contents of abscess cavities are forced into the bronchi, fever subsides, the cough lessens and the patient improves in weight and strength. The earlier the treatment is begun the better the prognosis, but good results are reported in moderately advanced cases.

The technique of the operation is described and is very simple and practically without danger in careful hands. Nitrogen gas is used because it is more slowly absorbed than other gases. The operation or injection should be repeated every two or three weeks, keeping the lungs constantly compressed until cicatrization takes place. The amount varies from 50 to 200 cubic inches, and is regulated by the dyspnoea and displacement of the viscera.

In discussing pulmonary hemorrhage, the author gives a very simple means for its management. A hypodermic needle is rubbed dull on a brick, introduced into the pleural cavity, the but end covered with cotton, as a filter. The skin is previously sterilized and punctured with tenotome. An artificial pneumothorax can now be produced by using the finger over the but end of the needle, as a valve.

On inspiration the finger is lifted and the air allowed to enter, and on expiration the opening is closed.

The cavity can be filled to any desired amount and should dyspnoea or cyanosis intervene by reversing the process, the cavity can be emptied. G. S. C.

Post-Operative Results of Trachelorrhaphy in Comparison with those of Amputation of the Cervix: Leonard in *Surgery, Gynecology and Obstetrics*, analyzes cases operated upon at Johns Hopkins Hospital during the past twenty years. Trachelorrhaphy and amputation of the cervix give almost equally good results, so far as improvement of the general health of the patient is concerned. In this respect the operations were very gratifying about ninety per cent of the patients receiving marked benefit.

Leucorrhoea which was present in a large percentage of cases was cured by amputation of cervix in sixty-two per cent. of the cases and improved in thirty per cent. Trachelor-

rhapsy gave forty-two per cent. of cures and forty-two per cent. improved.

Post operative hemorrhage occurs much more frequently following amputation than trachelorrhaphy. Five per cent. of cases of amputation bleed so profusely as to require resuture, vaginal packing having failed. In a number of other cases bleeding was controlled by the vaginal pack. In only two cases of trachelorrhaphy was the vaginal pack required and no case required resuturing.

Dysmenorrhoea was present in a large per cent. of the cases before operation. This was improved or entirely relieved in sixty-two per cent. of the cases, the results being about the same from either operation.

Trachelorrhaphy is followed by sterility much less frequently than is amputation of the cervix. The explanation being that due to cicatricial contraction that is greater stenosis of the cervix following amputation.

One of the most striking tables presented is the showing the marked tendency to abortion and premature delivery following amputation of the cervix. Only forty-five per cent. of the pregnancies reached full term and nineteen per cent. had premature deliveries. No such tendency followed trachelorrhaphy.

After amputation of the cervix the first labor is difficult in over one-half of the cases and rarely present after trachelorrhaphy.

The author concludes that amputation of the cervix interferes with fertility, is followed by a tendency to abortion, premature delivery and difficult labor. Hence, the operation should not be performed during the child bearing period, until all other means have failed.

Trachelorrhaphy in properly selected cases improves the general health, relieves dysmenorrhoea, does not interfere with fertility, has no tendency to produce abortion, premature delivery or difficult labor and should be the operation of choice in the child bearing period. G. S. C.

Cholecystectomy: John B. Deaver, (*Surg. Gynec. and Obstet.*, 1913, xvii, p. 667) granting the applicability of simple cholecystectomy in cases properly selected believes, nevertheless, that from a practical standpoint the surgeon will seldom be able to select such cases, and that as a rule some operation involving either drainage or removal of the gall-bladder must be employed to do the greatest good to the greatest number. There is practical unanimity concerning the advisability of cholecystectomy in such well defined conditions as hydrops with obliteration of the cystic duct, chronic empyema, calcareous degeneration, the cholesterol gall-bladder of Moynihan, gangrene, carcinoma limited to the gall-bladder and extensive laceration of

perforation of the gall-bladder. In all other than these enumerated the conservatively inclined hold to cholecystotomy on the ground that the gall-bladder is beneficial and should be preserved. On the other hand, those who advocate cholecystectomy argue that the gall-bladder is a vestigial and unnecessary organ and that permanent cure is not assured by drainage.

The precise function of the gall-bladder is, like that of the appendix, not definitely settled. The old idea of the physiologists that the gall-bladder served as a reservoir for bile during the period when it was not needed for digestion is inadequate considering its small size and moderate distensibility together with the fact that the average daily output of bile in the adult is 30 to 50 ounces. That the bile does back up in the gall-bladder during the intervals between digestion is certain, as is shown by the increased drainage from a cholecystostomy opening during the night. Nocturnal pain in cholecystitis may also be explained in this way, the gall-bladder being distended by the back-flow. The suggestion that it acts as a tension bulb has much to commend it. The evidence favors the belief that the gall-bladder has a desirable function even though its presence is not necessary to health. Although cholecystostomy in gall-bladder infections does not restore the organ to a normal condition it is surprising how many cases are permanently cured and the reformation of the gall-bladder is a very rare occurrence. Deaver has found the prepancreatic lymph nodes almost invariably enlarged in gall-bladder infections. Babcock has pointed out the role of cholecystitis in the causation of myocardial degeneration, but other organs suffer as well. When such a condition is present and the gall-bladder presents such serious alteration as to make the question of cure by cholecystostomy problematical cholecystectomy is advocated. The higher mortality of cholecystectomy is one of the strongest objections to it but the writer warns against being misled by the published figures of the relative mortality of these two operations with the reminder that cholecystectomy has been reserved by most surgeons for the more severe and complicated cases in which the mortality is necessarily high from the severity of the disease itself. Kehrer, who performs cholecystectomy more freely than other prominent surgeons in this field reports a mortality of 1.5 per cent in cholecystostomy and 3.7 per cent in cholecystectomy. Even here the cholecystostomies were in a group less seriously diseased. It is thus seen that this discrepancy is not so forbidding and warrants the operation when convinced that removal of the gall-bladder is the operation of choice.

Gall-bladders which are known from symptoms and appearance to have become the seat of chronic infection with periodical exacerbations will in the majority of cases be best treated by cholecystectomy. Bacteriological findings are given great weight in deciding upon the type of gall-bladders which shall be removed. A gall-bladder thoroughly and chronically infected which has evidence of chronic systemic intoxication and regional involvement of adjacent organs, notably the pancreas and peripancreatic retroperitoneal tissue is too dangerous a source of future trouble to rely upon cholecystostomy for permanent cure. While cholecystectomy is the operation of choice in this class of cases one will often content himself with cholecystostomy. In this case a large tube should be employed and not removed before two weeks have elapsed in order to create a firm sinus that will not close in less than six to eight weeks.

The ease or difficulty of cholecystectomy depends on the situation and degree of involvement by adhesions and inflammation; the stronger its indication the greater the operative difficulty. Deaver concludes with a description of his operative technic.

L. K.

Radium in Malignant Disease: Robert Abbe (*Lancet* clxxxv, 1913, p. 524) has studied the efficiency of radium on more than 750 cases in private, including epitheliomas of all parts; carcinomas of the tongue, throat, esophagus, rectum, uterus, breast; sarcomas of the skin, parotid glands, etc., besides goitres, tumors of the liver and mediastinum and a variety of naevi, moles, papillomas, etc. The numerous failures are attributed to inadequate amount, or insufficient time of application, or errors in using the proper rays. Three types of results are to be recognized in radium work, to-wit: destruction of tissue too closely in contact; stimulation and harmful results; and efficient retrograde degeneration of malignant growths with lasting benefits amounting at times to a surgical cure. The cases cited illustrate brilliant and even startling results and are not confined to the skin cancers only. Malignant tumors, however, must first be excised as thoroughly as possible and the bed of the disease be well radiumized to effect degeneration of malignant cells. Ulcerating types of cancer are rather the better ones for the use of radium, but when the mass of disease is too great it is not possible to penetrate effectually deep enough to produce the desired result, and it becomes the duty of the surgeon to reduce the diseased tissue to a shell as it were before applying radium. Many types of mammary cancer near the surface and involving the

skin may be radiumized without operation, while others must be incised and tubes of radium buried in the tumor. In destructive types of sarcoma the specific action of radium as a curative agent is illustrated in a remarkable way—demonstrating in the myeloid type its superiority to all other surgical measures.

In conclusion, there has been established: (1) an undoubted retrograde degeneration of malignant cells under correct dosage of gamma radiation; (2) effective use of radium lies in the application of a large enough quantity to avoid the stimulating action of little doses at short range; (3) the utilization of gamma radiation with its deep penetration can be made by removal of alpha and short beta rays by filtration through lead; (4) such filtration requires many times as long for sufficient amount of gamma rays to act as when other rays are eliminated by what may be called "distance filtration." One and a half inches seems in practice to exclude most of these and gives free and instant play of the entire gamma range without delay of passage through lead; (5) cross firing of several specimens simultaneously or of one large specimen moved successively to several nearby places is necessary for the best work; (6) normal tissue resists many times as large doses of gamma rays as are required to check and dissipate morbid growths.

L. K.

Technic of Intra-Abdominal Administration of Oxygen: William S. Bainbridge (*Am. Jour. of Surg.* xxvii, 1913, p. 364) describes the two methods of administering oxygen intra-abdominally. The continuous current method originally described by Thiriar in 1899 was employed by him in tuberculous peritonitis; the ascitic fluid having been first evacuated through a button-hole incision the gas was introduced continuously for ten minutes, a free outlet being maintained. It has been so used to flush the cavity after laparotomies to stimulate tissues, prevent inflammatory extension, increase phagocytosis, destroy germs and neutralize toxins.

The second method as first employed by Bainbridge in 1903 the oxygen is left to distend the cavity and be gradually absorbed without repetition or continuance of the current. The abdominal wound is closed except at the upper or lower end where the rubber tubing conducts the warmed gas into the cavity. An interrupted stitch is tied above and below the tube, another peritoneal stitch is taken at this point but not tied and a purse string suture encircles the tube also untied until the latter is withdrawn.

Uniformly good results by this method in over 125 laparotomies has convinced the au-

thor of the benefits of oxygen so administered in shock, nausea and vomiting; in overcoming negative intra-abdominal pressure after the removal of large tumors; in preventing adhesions; in septic peritonitis and certain types of tuberculous peritonitis.

L. K.

Puncture of the Corpus Callosum: Edward Archibald, (*Canad. M. Asso. Jour.* iii, 1913, p. 451). The problem of how best to give relief in cerebral compression from unlocalized tumor is in many cases difficult. Decompressive trephining may fail to give even partial relief; too much must not be promised. As a palliative measure it is often a grateful operation. The Cushing subtemporal procedure is universally acknowledged as the operation of choice for pure decompression. Sometimes, however, it proves inefficient; in spite of a large subdural hernia, the symptoms occasionally persist. The reason may lie in the co-incidence of a large hydrocephalus internus, such as is known to complicate tumor not infrequently. Experience of this kind led Anton, the neurologist at Halle, to puncture the roof of the corpus callosum as a method to relieve intercranial pressure. This created a communication between the ventricles and the entire cerebral and spinal subdural space. The communication, he argued, would remain permanently open on account of the current set up between the ventricle and the subdural space. Postmortem examinations verified the correctness of his views. The technic of the operation is as follows: On the right side about a finger's breadth behind the coronary suture and 2 cm. from the mid-line an opening is made with the Doyen burr about 1.5 to 2 cm. in diameter. A slit opening is made in the dura, taking care to avoid any large cerebral vein. Then a curved canula is pushed in over the convexity of the cortex till it strikes against the falx, which membrane guides the further progress of the canula downwards till the corpus callosum is reached. The instrument breaks bluntly through this structure with very slight force, whereupon the ventricular fluid is emptied, usually under some pressure. The author reports four cases in which puncture of the corpus callosum was performed by him. In the two cases of unlocalized tumors it was evident that neither subtemporal decompression or collosal puncture was in itself sufficient to get the best results. Each in turn had to be supplemented by the other. In the two cases of obstructive hydrocephalus of high grade in infants the puncture method proved temporarily of slight benefit.

L. K.

MEETING OF COUNTY SECRETARIES.

The meeting of the County Secretaries was held at 8 P. M., September 1, 1913, and was called to order by L. C. Redmon, Lexington, who, in the absence of the President, Dr. Stine, acted as Chairman pro tem.

Cyrus Graham, Henderson, read a paper entitled "Councilors in County Organization."

COUNCILORS IN COUNTY ORGANIZATION.*

By CYRUS GRAHAM, Henderson.

I have often been asked "What are the duties of the Secretary of the State Association?"

I have never been able to answer that question satisfactorily until this year. I now know that his duties are to lie awake at night and try to think of some work to be done; or of some poor practitioner out in the bush, whom he wants to do something, and get right up, and without taking time to even clothe his graceful form in proper raiment, dictate an epistle to the aforesaid poor overworked practitioner, telling him that "it is absolutely necessary for him to get busy, that the entire society is waiting with expectant minds and anxious hearts to hear from him words of wisdom, such as only he can write."

So when, on August the 17th, I received a letter from the Secretary asking me to write a paper on the subject of "Councilors in County Organization," I looked up at my thermometer, hanging over my desk (saw that the mercury was threatening to spill over the top, I said, "Blankety! blank, I believe he lies awake at night trying to think of something for us poor devils to do.")

But gentlemen, I very readily recognized the fact of the importance of the subject mentioned. In looking over the Constitution and By-laws governing our Association, I find under the single word, Council, quite a number of important duties laid down, and many ideas suggested, which if carried out successfully would weld our Association into one of the most compact scientific bodies in existence, and one, the impact of whose combined will, working together, would brush away all obstructions.

This being my first year to serve in the important office of Councilor and not being familiar with my duties, I fear that I have been somewhat neglectful.

What little experience I have had during the past year has shown me the importance of the Board of Councilors, in contributing to the success of the entire organization.

It is of more importance to the profession, as a body, that the Board of Councilors have their regular meetings, during the session of the general body, than the reading and discussion of some of our scientific papers.

In our meetings at this time, we get more in accord in the workings of this unit, but also, more in touch with the ideas of members in the field. These meetings mean something "for the good of the order." They mean the perfecting of our organization for field work for the coming year, and the working up of a personal acquaintance with the Secretary of each County Society in our respective districts so that there will be harmonious effect for cohesive work.

The auditing of accounts, keeping watch over the character and cost of publications of our association, and the care of papers and all property belonging to the Association, is but a few of the duties devolving upon the Council. The success of a meeting, and the maintaining of the stability of the entire State Association depend upon the management of the Board of Councilors and the support they render to the officials in charge. Individually, each councilor is an organizer, whose duty it is to visit each county in his district at least once a year, cheering up the old members and boosting the new members up to an enthusiastic understanding of just what it means to each one, individually, to keep up the numerical strength of the organization. The co-operation of each local secretary by letter and personally with his district Councilor is absolutely necessary for success.

By visiting each county society, taking a personal interest in local affairs that pertain to the interest of the profession as a whole, we add to the strength of the organization and render more effectual the support given us by the different secretaries.

One of the most important duties of the Councilor is to act as peace maker. To know "When to take occasion by the hand" and lead some of our erring brethren into the ways of peace. *Canida par homines*, and while we labor here with commutual zeal, we all do strive in acts of altruistic benevolence and love, we should remember always, that we are "Brothers in peace, not rivals in command."

Doctors are very human creatures. The high tension of our lives in often yielding our health upon the altar of our profession, sometimes causes us to be impatient and sensitive. Then with us "trifles make the sum of human things, and half of our bickerings from our own foibles spring."

As a peacemaker between these little local factions, the Councilors can accomplish much. Not by "butting in," but by wise counsel

*Read before the Meeting of County Secretaries, at Bowling Green, September, 1913.

bring about a feeling of *conciliation*. By showing that we "are actors all," and although sometimes we may get mixed in our lines, a forgiving spirit, a more gentle tongue, a more genial hand-clasp and more knightly bearing toward one another, will redound to the benefit of us all.

Often the Secretary, by giving his Councilor an unbiased version of some local trouble, will aid materially in bringing the contending factions together in the bonds of unity. There is no pleasure in being a member of a society where there is a continual scrap in evidence.

As a rule, these disputes arise from some trivial matter. The idea in all parliamentary bodies is to let the majority rule. The doctor who will not belong to his association, as a rule, has only himself to thank, as his is the unfortunate one. Under kind and generous treatment, the fellow who is mad and swears "he won't come in" will realize that he has been acting a dessicated ass and return to the fold.

We should consider in all of our controversies, that among professional men, that motto of "Give and take the gospel, and we'll call the bargain fair," should be the sign by which we conquer.

I have become just enough interested in this subject to know that what a Councilor should do would make a book, but what he does do may be recorded in a page. We do not fully realize the importance of this branch of our association.

Collectively, we are the Board of Censors for the Association. The question of rights and privileges of the members, not only in the State Association but also in the different county societies, when they cannot be settled in the local society come up for final adjudication before the Board of Councilors. To the Council, the different societies have the privilege of reporting sanitary conditions in their counties, and they have the right to investigate and communicate as a body to the public.

If the Secretary of each county society would keep in touch with his Councilor and continually encourage and push forward any suggestion that he thinks will redound to the efficiency of the organization, he would help the cause very materially. A united and continuous pull on the part of every Councilor and each Secretary from his home county, can but result in a distinct gain in numerical strength, and it will also increase the moral and effective scientific working force of the entire body.

Then let us go to our homes, from this meeting, with the determination to visit, to inquire and to do all we can to promote and to organize for a better and more complete work-

ing body of scientific men laboring for the good of humanity.

"For labor is life, 'Tis the still water faileth, Idleness ever despaireth, bewaileth; Keep the watch wound, fo rthe dark rust as- saileth!"

And by doing this, we will place our Commonwealth in the forefront of other states in sanitary matters.

DISCUSSION.

Arthur T. McCormack: I would suggest that the councilors speak of the methods which they employ in the various districts, so that what they say will be of benefit to the other councilors and districts and speak of how the delegates and councilors can be of more benefit to the county societies and the district.

In the last two years the expenses of the councilors have largely decreased. The committee on Reports of Officers have noted this fact and they would like to have the councilors state how they can do the large amount of work they are doing without having any expense account, or very small ones, so far as practicable in the discussion.

C. Z. Aud, Cecilian: In answer to the last question of Dr. McCormack. I happen to have an annual pass over a railroad, and I can travel free. Most of my counties can be covered with my annual pass; therefore, I can travel without expense to the society.

In the last few years I have done a good deal of work by correspondence.

There is but little criticism that can be passed on the paper of Dr. Graham. He has well outlined the work of the councilors, but it must be kept up, and I believe that it is a work for the younger men of the profession. I think it is time, in my district, for you to have a younger councilor. I wish to say, however, the work has been pleasant to me, and it will be pleasant to some of you. I hope some of you will be placed in my position. I think it is a good thing to resign once in a while. (Laughter.) I want to ask you delegates to do a little more this year. The councilor feels better if he is invited. There are some county secretaries in my district who did not invite me during the past year. I would ask and urge that you delegates get to work and get us a spirit of interest in your counties. I have never yet visited a county in which we did not have a splendid day. We always have a good time. I was one of the first councilors elected, and have served every year, except the year I was your president of the Kentucky State Medical Society. Dr. D. C. Bowen, of Hardin county, was councilor during that year. I wish to take this opportunity of recalling this name, "Bowen," one of the sweetest and most worthy in the annals of Kentucky medicine.

J. W. Kincaid, Catlettsburg: Dr. Graham is beginning to get a comprehensive grasp in the short time during which he has been a councilor, of the multifarious duties which attend that office. The councilor who does the best work is the one who gives perhaps the most time to it. But when one comes to consider he has been over his district a number of times he cannot always see the necessity of going right back again next year and visiting the same counties if they are doing well, and if he has visited a county two or three times and they continue to do badly he gets discouraged. But we will suppose that if one is persistent he can get a sympathetic organization in every county in the State. I have organized one county in my district three different times rather loosely. Every time it has become unorganized, but there has been some new blood infused into the county, and I have the positive assurance from two or three of the new men and two or three of the old ones that they will be enabled to organize on a firm basis this fall.

I believe the councilor is not appealed to as often as he should be by the members of the profession in the various counties in the State for his disinterested advice in matters between doctors themselves, to say nothing of malpractice suits. Oftentimes misunderstandings and bickerings and things of that sort, a disinterested party, that lives outside of the county, can smooth over. It has been my pleasure to assist in that way in two or three instances in a profitable way; but unfortunately the doctors try to settle these things among themselves by keeping it fomented all the time and approaching each other in the proper spirit. Each thinks the other is a rascal, and there is no forgiving on one side or the other. If they should bring in the councilor as an adviser it would do lots of good.

I have only visited one county in my district this year. There have been a number of circumstances that have conspired to prevent me making the usual trips, chiefly owing to sickness in my own family this summer, and in the early spring there were conditions that demanded my attention at home.

The secretary of the county society will find the councilor of his district ready and willing and anxious to visit the society at any time that he is invited to do so, but I confess it is a good deal of a disappointment for the councilor to go into a county with the expectation of having a good meeting and only have three or four of the leading spirits in the county present when there ought to be 10 or 15 or 20. It may be, there is something lacking in the personality of the councilor that makes that possible. The best excuse these gentlemen offer in my section is that the distance is so great that they cannot come to the meetings under one or two days, and I have on some occasions taken some of the greater lights

along with me in order to stimulate interest. Dr. Shirley has been very kind as one of the neighboring councilors to come with me on one or two occasions and his genial presence has been sufficient to draw out a good crowd.

There is one thing I believe the councilors have not done as much as they should have done, and that is the organization of district medical societies; that is, a medical society composed of all doctors in the district to meet at some central town once a year. If a doctor can get out of his own county and mix with doctors in other counties, he feels he has a larger field, and some how or other I think a few of them will do things away from home they will not do at home. They have made their reputations at home and there is nothing more for them to gain, but in a district meeting, where there are men from surrounding counties, they will have a larger audience. I believe if we organize these district societies we will find it would really stimulate the county organization. I had the opposite view of that a few years ago when I and some other gentlemen in our county and adjoining counties were instrumental in putting into quiet rest a tri-state medical society we had namely, of Ohio, Kentucky and West Virginia, because we wanted to build up the county organizations. I believe it is really a mistake not to have district organizations. If the councilors with the county secretaries would go to work and get cooperation in the organization of district societies it would be a good thing for them.

R. C. McChord, Lebanon: As councilor in my district, I wish to say the principal trouble is with the secretaries of the county societies. The secretaries do not cooperate with the councilor as well as they should. In two counties in my district I have never in my experience as a councilor been invited by the secretaries of these counties to visit them, and that is one of the principal drawbacks to the work of the councilor, namely, the way in which the secretary if I may say so, acts towards the councilor. I believe if there was more intimacy between the secretaries and the councilors it would be better for the society. We all know that to make a society you must have an efficient secretary and unless you have a good secretary you cannot have a county society. What I want to say is this: I want to impress upon the delegates and secretaries of county societies that they should take the councilor of their district more into their confidence and invite him officially to visit them. We are all anxious and willing to help them, but where we feel that the secretary has not shown us the courtesy of inviting us to the county, we do not feel like going there.

The Chairman: Before we ask for a general discussion on this paper, we should be glad to hear from Dr. I. A. Shirley, of Winchester.

I. A. Shirley: I will try to answer Dr. McCormack's question in regard to why the expenses of the councilors have gradually decreased. I think it is the experience of every man that he will not charge for services that he does not render, and his expenses will be in proportion to the number of visits he makes throughout the county.

I am sure, the suggestion of Dr. McChord regarding the secretaries of county societies failing to invite councilors is a good one, and it would lessen the work of the councilor very materially if he were invited to visit certain districts. In other words, he would go there feeling he would be able to do something. However, so far as I can recall, I do not think I have been requested by half a dozen counties to come. I have simply made my appointments and gone. It is true, I have received the cold shoulder frequently. I went to the Courthouse to see a county judge, who was a doctor. I had never been in his county before. I said to him, "I want to see you across the way." He went over, and I said to him, "I saw Dr. B. this morning, and I want you and Dr. B. to join the society." He replied "Dr. B. and I cannot enter such a society together. It is not safe for us to be in the same room for a long period of time." I cite this illustration to show that this condition of affairs comes up every now and then. I said to my friend, do you recognize the fact that you are elevating that man very far above what he deserves; In other words, you are staying out of the society and debaring yourself from associating with the other members simply on account of one man, and he is keeping you away from it. My advice is for you to join the society, to go and speak to this man, and if you do not want to discuss matters with him, do not do so, but show your presence there and show the confidence you have in your profession. These are the things we come up against constantly in our work as councilors. Of course, we have our pleasant moments and a good time.

My work for the last three or four years has been largely by correspondence, and in the last year going about and looking up the have-beens and working the councilorship as a side line. It is not right for me to charge for that, but I charge enough according to what I do for the Kentucky State Medical Association. You organize a society, have the members pay their dues, and then next year they drop out and reorganize, it is usually very unsatisfactory. There is no trouble to organize but to keep them alive is the hard part.

I have seventeen counties in my district, and if I should visit every county society I do not know what my expenses would be. Some of these counties are inaccessible. It seems to me we can do good work by correspondence, after we know the situation. Much, however, can be accomplish-

ed by personal contact with these men. The work of the councilor is to keep the district organization intact, to keep it progressing. They do not seem to think it depends upon the individual member and membership, but they expect the councilor to do the whole business. It is a thankless job, without a cent of pay, and if we could impress upon the whole membership the necessity of their doing something and should do something we would have a much easier road as councilors to travel. I want to impress upon the membership of this Association with all the energy of which I am capable, that this is an individual work, and unless you realize that much depends upon all of us individually and collectively we will never accomplish anything. (Applause).

The Chairman: We have heard from the councilors on Dr. Graham's paper. They lay the burden upon the secretaries. We will hear from the secretary's side, and I declare the subject open for general discussion. The councilors have alluded to the fact that the secretaries fail to invite them to come to their societies. I should think they would have a standing invitation, but these standing invitations they do not feel like accepting. We would be glad to hear from any secretary present. Personally, I would like to discuss Dr. Graham's paper myself. There are several gentlemen on the program who are present, and unless someone else desires to discuss the paper at this time, I will say a few words on it myself.

I myself have been laboring under a false impression. It has never entered my head that it is the duty of the county secretary to invite the councilor to visit the county societies. We have expected him to come without an invitation. I must say, from now on, I will extend Dr. Shirley a hearty invitation each year to come and see us. The councilor can help us a great deal in medical society work. His presence will stimulate interest. With a cut and dried scientific program from month to month, it gets monotonous to the society members, and they say I will not go to the society; it is the same old story. Some fellow will tell about this or that thing, but if the councilor would drop in occasionally, let us know a day or two before, so that we can advertise the fact I am sure the attendance would be increased and the interest stimulated, and we might also furnish something to eat. Our councilor did not receive an invitation last year; I do not know whether he intended to make a visit or not, but I think he accidentally dropped in. We were mighty glad to see him and we had an interesting meeting. I think we should have at least one visit from the councilor a year, and if we can get more it will stimulate interest in the society very much. Our councilor will have an invitation from me as soon as I get home.

At this juncture, Dr. A. C. L. Percifull, took the Chair.

C. Z. Aud, Cecilian: Let me say a word or two in regard to the kind of invitation. The invitation mentioned is not a very acceptable one. How does the councilor know when or where to go? He does not know whom he will meet, if anyone. The county secretary should make preparations for him. He should ask the members as to the best time to invite the councilor. Not in mid-winter, when the roads are bad, when the country doctor cannot very well attend, but in a seasonable time. Have it well understood by the profession throughout the county. Get in communication with the secretary of the State Society, so that he can send out notices and give the councilor time to write letters to the various members of the profession throughout the county. All this work should be done in unison.

J. E. Wells, Cynthiana: I am not a councilor nor a secretary, but I have had some experience as councilor, and I want to take issue with Dr. Aud and some of the others in regard to the invitation to visit county societies and in knowing when one shall go. It is the duty of the councilor to know the exact date of every meeting held in his district; at least I consider it such. He should keep in touch with the county secretaries by correspondence and know when the county society meets, and the kind of meetings they are having, and when the meetings are not regular, or the work of the society is not up to the standard it is the duty of the councilor to visit that county and make an effort to correct the trouble and bring about a better state of affairs by injecting a little enthusiasm into them. I find that I had better success in going into a county a day before the meeting; going around and making personal visits to the physicians talking to them privately and finding out what the petty bickerings were and try to smooth them over and patch them up. This will give you a better idea as to how to proceed to bring about harmony to secure a long pull, a strong pull, and a pull altogether. When the physicians of a county get to know each other well, eat and work together they will make a good county society. We must mix a little of the social along with the scientific to make our meetings a success.

The councilor should be a judge of men; some doctors will not work on the off-side, and some do not make good leaders. I have seen some county societies kicked clear out of existence because of a poor secretary. You must have a good secretary. When I started out as councilor—when the State Society was reorganized—I wrote to every physician in the county before I was to visit the county; and tried to see him when I got into his town. At that time I had nothing but Polk's Medical Directory, and I found that I wrote to horse doctors, retired doctors, drug-

gists in the counties; and in making some enquiries in regard to some doctors in certain towns the men who lived there did not know there were such men in the town.

Now things are different because we have a directory that we can rely upon. My success was going into a town and finding out what the trouble was among the members of the profession, and smoothing it over and getting them together.

When a county society is meeting regular, having good meetings and working together harmoniously there is no special need for the councilor to visit them, but in the event of some friction or failure to have good meetings, it is the secretary's duty to notify the councilor and invite him to visit the society for the purpose of stimulating the members to take more interest. The councilor should at all times be in close touch with the secretaries of the county societies in his district in order to know where and when he is needed.

I agree with what has been said—that it is an easy matter to organize a society but not such an easy matter to keep the members together which is the main thing to do, and the hardest task the councilor has to perform. Some counties in my district had to be organized every year. They were great on organization—but not much to stick. We would have a splendid and enthusiastic meeting when we organized but that would be the only meeting that year.

If you can get the members to feel kindly towards one another—and make them understand the benefits to be derived from this organization, they will go to their meetings regularly, receive and impart information and do good work.

O. P. Nuckols, Pineville: This year we adopted an annual program and took the liberty of putting our councilor on the program for a paper to be read in August. Our society has been so harmonious for the last two or three years and we have worked so smoothly, we have had no difficulties for the councilor to settle, consequently, we have had no occasion to call on him for assistance in that particular capacity. However, we are always glad to have the councilor visit us, and, as I have said, this year we put him on the program for a paper at the August meeting, but his duties were such that he did not get to attend. In this case, I feel that we have extended all the courtesy that was due to the councilor of our district, and that we are exonerated from any criticism along that line.

M. M. Mcss, Bowling Green: I went to Simpson county some ten years ago and attempted to organize a society there and was elected secretary. It was my fortune to be secretary of the county society until I left there a year ago. I found it arduous work to be secretary of a county society and do the work properly and right. But I tried to keep in touch with my councilor

all the while and whenever a meeting was held I sent the councilor a very cordial invitation to be with us, as Dr. Rau will bear me out. He got an invitation to our county society.

As to papers at the county society, usually our committee on program consisted of secretary and secretary and secretary. As a rule, he was the committee and secretary all the way through, and I usually tried to put on men who would give us some sort of paper. I usually tried to put men on that would be there. Sometimes I went to vary the program and we would miss a paper, but usually we had some sort of paper. I have made it a rule to put men on that I thought would be present, and usually wrote a paper myself on some subject, not letting the members of the society know that I was going to write one or to read it in case of emergency. I always have something ready. It is the duty of the secretary, if he is going to be the whole show in a county society, to be ready at all times. I do not say that my papers were regarded as first-class, but they usually stirred up some interest. In a county medical society, if you have some sort of paper read, it will be the means of starting a discussion which is generally a good thing. The secretary should call upon some member who will be sure to give some sort of paper. I have the greatest sympathy for the county secretary. They all have my hearty cooperation in anything they may do, and likewise the councilors for that matter. I think the secretary of the county society should send the councilor a cordial invitation to every meeting. That is the point I want to make.

P. H. Stewart, Paducah: I have no doubt but what, so far as successful government and the interest in the county medical society are concerned, the burden falls entirely upon the shoulders of the secretary. In other words, he is the man who keeps in touch with the members and the man who keeps interest aroused, but in our part of the State, in our little neck of the woods, our councilor is a live wire. He is Dr. Richmond of the first district. (Applause). He does not attempt to make the doctors in the first district the goat, but he says we are his sheep and he is the shepherd and he looks after us.

So far as McCracken county is concerned, he does not wait for an invitation. I do not know whether this applies to the district, but he does not wait for an invitation, but follows the law laid down in the Constitution and By-Laws in which it is said that it is the duty of the councilor to visit each county in his district at least once every year, and when he gets ready to come to McCracken county, he calls up the secretary and asks him when is the next meeting night.

We meet twice a month. The secretary informs him. He asks the secretary to invite the membership, stating that the councilor of the first district will be present at that meeting. I am

sorry, and regret to say we have a fuller attendance when the councilor is present than we do when he is not, which I think speaks very well for the councilor, but not so well for our society.

I have had the pleasure of visiting some of the county societies with the councilor, and I know that so far as the counties I have visited with him are concerned, he does the same way, and while I am not a councilor, my observation leads me to the conclusion that the invitation from a county society is always outstanding to the councilor, and if he will make the effort to get in touch by correspondence with the secretary he will have no trouble in having an open date with any county over which he is councilor, and Dr. Richmond in the first district keeps up a regular correspondence school, not only with the secretaries of the different county societies but with the individual members. He makes every member of every county society feel like Richmond is personally interested in that man, and so far as we know he is and he will write a personal letter to the different members of the county society, asking them how the society is getting along, and he has that member and this member write him and in this way keeps up a closer contact with the personnel of the membership and the councilor. (Applause).

The Chairman: I am glad Dr. Stewart brought out the point that the constitution says the councilor must visit each county society once a year, but it does not say whether he should have an invitation to do that or not.

A. O. Sisk, Earlington: I am a little surprised at the timidity of the councilors. Why should they wait for an invitation to attend county societies in their districts? It is their duty to visit the county societies, to encourage its members, to advise them and if possible arouse enthusiasm among the members.

If they will only let us know the date that would be convenient for them to come, we will gladly make arrangements for them, and will give them a cordial welcome when they come. We do not know when it is convenient for them to come. I know I have invited the councilor to come to our meeting, and he wrote that it was not convenient for him to visit us at that time. Our State Journal has wisely provided a calendar for each month, and gives the date of all the county society meetings. Let the councilors consult this calendar, arrange the date to suit them notify the county secretary and I am sure they will all receive a royal welcome.

It might be well if the membership would get the habit of consulting this calendar too, then perhaps they would not forget the "meeting day."

Oscar Keen, Burkesville: I think Dr. Bullitt visited our county several years ago and got about half a dozen to come and organize a county

society. Since that time we have not had a councilor with us. It never occurred to me it was our duty to invite the councilor. I thought the councilor was one of the higher officers, a sort of supervisor of men, who intended to look after the interests of the county, and if they were not at work, keep them at work. If the idea had ever occurred to me that it was necessary to invite a councilor I would certainly have given him an invitation. I do not know, but it seems to me that if the councilors would do their full duty—and I am not criticising them—and go to some of the counties like mine and stir us up, talk to us, keep us together, and tell us what is going on and what they are doing for the societies in the various counties, we would do much better. As it is, we go along in that easy, go-as-you-please kind of way, and we do not care whether we go to the society or not, and if the councilor would drop in and tell the secretary that he would be there on a certain day, we would get the members together and get them started again. If something of that kind is not done, I do not know whether I will ever get them into our society.

We have not a regular place for meeting except in my office. There has never been a meeting except in my office. I furnish the light, the room and everything and they are welcome to meet in my office at any time. I have called up every doctor or member in the county, I have written each member of the county society, stating the date and time and place of meeting and assigning subjects to different members. Then I would telephone on the morning of the day I expected them at the meeting. If the councilor would send a word on a certain day and make a statement to each of the doctors, you will get them all interested, and I extend to the councilor of our district an invitation to come down at any time and we will give him a hearty welcome. (Applause).

W. W. Anderson, Newport: Being neither a councilor, secretary, delegate nor alternate, perhaps I have no right to be called upon to inflict anything upon you, but to make the bluff good, I will just tell you a little about our work and some of our views on the subject that has been discussed here. It has never occurred to us that it should be necessary to invite the councilor, and yet we have always invited him once a year when we have our banquet, and he always comes. (Laughter). We did have a councilor at one time who came without invitation, and without notice. He walked around in the community, then came to the meeting, and he had been much discouraged before when he saw us individually, but when he got us together he found we were not so bad as we looked taken singly. That was Dr. Wells. He has been friendly to us and has never told bad things about us since.

One thing we do not believe in is that everything depends upon the secretary. We see no

reason why we should depend upon the secretary. The secretary, to be sure, is the central shaft of the machinery through which motive power works, but we do not feel the program depends upon the secretary, and we do not believe the best secretary in the State can make a good program and keep doing it right straight along. A one man program is morally certain to fall into a rut. It should be a cooperative affair. I think programs ought to be announced much longer in advance than is the custom in most societies. We read the reports of the various societies and we find that Dr. So and So read an interesting paper, and Dr. So and So has been assigned to discuss such and such a subject next month. It is not time enough. It takes much more than a month to prepare a paper on any subject to acquit one's self creditably and deal with the subject properly before a scientific body. If we give the speakers time enough and give them to understand we expect them to do well, inasmuch as they have had time to do so, they will do better than otherwise. Let us get away from the idea of a short notice program. I would not attempt to prepare a paper on one month's time. I refused to prepare a paper for our hospital staff unless they gave me four month's time. This reminds me of the preacher who was a very ready public speaker and was asked to deliver an address on some set occasion, and he wanted to know how long an address he should deliver, and the committee replied, "We will leave that to you." "Well, he said, "if you want an address an hour long, I can deliver it tomorrow night. If you want one half an hour long, you will have to give me two weeks time, and if you want one that is really worth while I want a month's time to prepare it, and twenty minutes to deliver it." And so a doctor must have time to study his subject. Do not let us throw this responsibility upon the secretary or councilor, but let us get down to work.

There is one other point to which I desire to call your attention, and that is, we believe that in many of our counties we have nearly reached the limit of organization, and that what we want to put the emphasis on now is good scientific work. We believe we ought to have more clinical work in our society because it teaches, and we believe discussions ought to be prepared before hand and well thought out. Instead of throwing bouquets at one another there ought to be scientific, well thought out discussion. A man will get from his county society meeting, whether a councilor or ordinary member, just in proportion to what he brings to it. If he has given the program no thought before hand, he will get but little out of it. If he has given the subject thought, he will receive thought from someone else and he will discuss subjects more intelligently.

In our own society we prepare the program a year in advance, and our secretary and president

call up the men a week or two before their time and remind them that they are to read papers or to report cases, and if they find the essayists are going to fail them they get someone else. We have case reports, so that the doctors will never be disappointed for want of a program.

In regard to the social phase of our meetings, we hold them once a month in the evening at a place where we can have what is commonly called a Dutch treat, where there are facilities for buying suitable things, and every one stands his own expense and gets what he wants. We have weekly meetings nine months in the year and good meetings without these social features.

One other point, and I am through. Much has been said in regard to the councilor's work in settling differences between doctors. I would suggest that where there is some misunderstanding between doctors, that the offended doctor go to the other fellow and talk it over with him in a friendly spirit; get the two doctors together, and by exercising a little common sense, in 99 cases out of 100 they can settle any difference they may have and feel better towards each other and prevent stirring up the community.

F. G. Beard, Shelbyville: I believe I am in Dr. Aud's councilor district, and I want to make a few remarks in regard to what he said a moment ago about malpractice suits. I do not think he could come to our county and try those tactics on us as I do not think it would work. While he may be able to do it in his own county, he could not do it in our county. I rather think it is a bad idea. There are very few lawyers who will permit themselves to be bulldozed. In regard to that, there is always a "nigger in the wood pile" and that nigger is another M. D., and the way to get at the matter in order to settle a misunderstanding is to see the man personally, talk it over with him, and that will block the game. I have had some experience along that line in my county, and I think I have prevented three or four malpractice suits by means of tact and persuasion. I have not had one myself, and I hope I never shall.

Our county secretary three or four years ago had a case which was seen by two other doctors. The patient was a young woman. He made a diagnosis, and the other two doctors said she had another trouble. His diagnosis was she had gonorrhoea and had contracted it from her husband while the other two doctors said she did not. Then one of our distinguished lawyers, a congressman, filed a suit for the young lady, a petition was drawn up, I got into it, called the lawyer up, and he came in right away. I knew the congressman did not like me, but I went to work and got the petition withdrawn. If we could not have bluffed the fellow, we would never have done it in the world. The county secretary is the best friend I have. I saved his scalp. There were

two other doctors in this case, who made their diagnosis, but we all got together and there was no further trouble.

P. D. Gillim, Owensboro: I am not the secretary of the Daviess County Medical Society. We have a gentleman whom we have elected for life. I never expect to hold that office, consequently I am not conversant with the duties of the secretary.

I certainly have appreciated the discussion here on this paper. I consider the remarks made by the Campbell-Kenton man very pertinent. I feel like advising that if you have a good secretary, keep him. He is the most valuable asset the county society has.

A. T. McCormack, Bowling Green: This has been a very interesting discussion. It has been given from almost as many different viewpoints and as many different sorts of county societies as there have been speakers on the floor this evening.

Having been present in most of the societies in the State and knowing their innermost workings, as I have had the opportunity of doing through your kindness, it has been interesting to see the progress upward from the societies where they are still struggling with the primary difficulties of getting a few men together or of getting some man to read a paper. May we not look forward to the time, represented by such societies as Dr. Anderson's or Dr. Wells', when the thing that is to be considered will be how to get the best man to present the best paper to the society, thus giving the society increased knowledge and power, because that is the ultimate aim of the organization. If every society in the state were doing the work the societies that have been mentioned are doing, then we would be ready to begin to march forward to the goal we are after. Until then, in many of the counties we cannot do that. It seems to me that almost every speaker has told a part of the truth, and that the whole truth as to the value of the councilor, is contained in the epitome of all that has been said. Dr. Stewart has almost described the ideal councilor when he told us simply the plain truth about W. W. Richmond. He has been a model in all the capacities in which he has served his county, district, and State organization. He has been a model for us all to look up to and to follow, and Dr. Stewart's tribute to him has been but a plain statement of fact. To hear his discussion of the things that are going on in the first district is a revelation to any medical organization. There is no doctor in the first district who is wrestling with a problem, financial, professional, social, or otherwise, that Dr. Richmond is not acquainted with—with whom he is not fully acquainted in the spirit that he is trying to help that man to solve his problem, helping him to do the best things he can do. I do not think he ever got an

invitation to go anywhere, because he was always already on the way. (Laughter). If they needed him, he was there. He has devoted a large amount of time and money and great effort to the work of organization that we can only speak of because he is not here to-night. He is our model.

When we stop to consider what has been done by the councilors in the initial organization of the association we, gentlemen, can look back to the very beginning when as councilors they went about their counties to organize them and to get the first start. Dr. Wells had no conception, and no man in this State had any conception of what would be the result when he made his first visit to and report about Newport and Covington. It was not simply because Dr. Wells went there, these men have accomplished results which have made them one of the model county medical societies. It was because Dr. Wells was able to find and inspire the kind of young men ready to take hold of this work and do it.

At the beginning, the first thing the councilor has to do is to tactfully and forcefully use his judgment in selecting the men of that county who are competent to act as county secretaries or who have the germ of secretaryship in them. In Dr. Anderson's county society, the secretary is only a cog in the wheel of the perfect machinery of that body. To the society just starting, the secretary is absolutely essential, he is the foundation, because it is on the proper building up of the block that the success of the organization depends.

Someone wrote to Dr. Redmen that they could not come to his county society whenever they wanted to on a general invitation because the roads might be bad. Dr. Redmen never thought of such an objection as that. There are no bad roads in Fayette county. They can go anytime. The road from Winchester is always open.

The problem presented to the different counties by the different professions is an individual one. I always think of a little cousin of mine who studied German. He came home one night and father asked him a question in German. He looked at him in perfect astonishment. He had learned to read German very well; he could parse in German, according to the German grammar, but it never occurred to the teacher to teach him to speak German. Like the family Bible, he thought it was only used as a matter of worship and was something to be taken out on Sunday and looked at. The same thing applies to the conduct of a medical society, to its secretary or councilor or anybody else. Each one has an individual problem. When you go from society to society over the State of Kentucky and see the wonderful work that has been done and is being done, you are astonished. If you were to go to the Bell County Medical Society, or to the Knox County Medical Society, you would see

those men coming together from their mountain homes, bringing a whole bunch of clinical cases to the meeting, many of them cases of pellagra, that would make a professor of skin diseases or nervous diseases in our best colleges envious. He would give his right arm to get such a clinic before the American Medical Association and exhibit the cases. To see them bring together a lot of clinical cases showing the results of infection with intestinal parasites, as I have frequently seen them do, would be worth while to every member of the medical profession of the State. To give you an example of the possibility of what sanitation has done, all you have to do is to visit the mines at Cary. What has been done there has not been accomplished in the United States except in the Panama Canal Zone, or in Havana. To see preventive medicine applied in a country so rough and so rugged is a revelation. In hygienic matters you see remarkable improvements. You see the A B C of sanitation through the activities of that county association. They have determined to devote a month each year for five successive years to teaching the people in their mountain homes, hitherto considered a hopeless section, you may say, sanitation, hygiene, and preventive medicine. The same sort of thing is being done in Christian county. It is being done in Ballard county in the same way. Scattered all over the State these things are being grasped by the doctors and by the people who are anxious and willing to do the work. The attorneys are looking out for better methods of putting better ordinances on the statute books looking to better health regulations and better everything which leads to better health and longer life in the State of Kentucky. This is all due to the work you are doing in building up your county organizations. When you stop to think of it and look over the list of councilors, you will find they are men who have left their offices to visit their counties with a view to bringing about organization, and there is not one of them who does not stand out in bold relief as a splendid representative of this great profession. They stand amongst us and before our people in a way that will compare most favorably with the judges of our Court of Appeals. They are men willing to make the sacrifices necessary to do our work. (Applause).

As to the County Secretary, when you organize a county society at the beginning or organize a church, it dies if you do not have a live preacher, and if that preacher is called away to fill a better place, the church dies. We have dead churches all over the State. The county organization, like the church, must have a leader. When it develops, like it has in many counties where they are all leaders, so much the better. When the county

societies are developed by such men as take part in the proceedings of our House of Delegates and of our State Association, the problems of the county societies are solved, and all they have got to do is to measure the harvest, and that harvest is health and life. (Loud applause.)

Cyrus Graham, Henderson, (Closing the discussion): It was not my idea at all in answering Dr. McCormack's invitation to contribute a paper on this subject to stir up things. I do not like to get into a discussion, but gentlemen I have been secretary of my county society, president of the county society, and censor of the county society, and have held half a dozen other offices, and have been the whole cheese several times. In fact, I was secretary of my county society and had to get out of the State to get rid of it. (Laughter). If you would learn the problems of a medical society be its secretary. He is the man behind the throne. He is the powder in the gun, and every encouragement you can give him is just that much powder and that much force to act upon. It requires vital energy to be a good secretary. You must have a willing smile and a glad hand. You must keep in a good humor. If there is any disagreement between two members you must try and bring them together and settle it. You have got to learn the different idiosyncrasies of men, and the secretary of a medical society is in a position to learn these idiosyncrasies.

Dr. Wells made a very important point. I tried that when I was elected councilor. I sat down and took Polk's Medical Directory and got the names and addresses of every doctor, osteopath, etc., and I wrote them each a letter and asked them to answer. I tried to get an answer from every physician in the second district who is in active practice, and even those who never expected to practice. (Laughter). I went after those who were in active practice. I secured the names of every doctor in the district, and of every physician who was a member of the Association and gradually through the aid of the different county secretaries culled out the names of those who did not need any pushing, from those who were delinquent, and then with the assistance of the secretaries I have been trying to bring those delinquents into the fold. Dr. Sisk has informed me what a time he has had as secretary of his county. He has stated facts. It is hard to keep up an organization in Hopkins county. Notwithstanding this, some of the best association men we have are in Hopkins county. In counties like Henderson and Warren it is easy to keep up an organization, but in those counties that have never been well organized it takes a man of parts to make good as a secretary. What we want is association men. What we must do is to impress the laity with the fact that the men who do not attend the medical meetings—who are not members of their county medical society, are

not the men for them to employ. That the physicians who are members of their county societies are the men who will give them the best service, for they are the men who are studying new methods, new ideas and are trying to apply those ideas in a scientific manner. These are the men who when pestilence stalketh in the night are ready for the emergency. If we can impress this fact upon our people, we will have accomplished something.

Dr. Stewart, of Paducah, spoke of Dr. Richmond. Gentlemen: Dr. Richmond is a model councilor. He is the white chief, the kingly Arthur, and the like of him will not come again. Councilors are not made, they are born. He is not only a councilor, but a counselor. He is always ready to give the glad hand, and he makes you feel that the cheer from his warm heart goes with every hand-clasp. I wish there were more like him. He sets the pace, not only for all of the councilors; but for every doctor in the State of Kentucky. (Applause).

The Chairman: The discussions on this excellent paper have been very beneficial, but we have something more in store for us, and I will call upon Dr. Rutherford to come forward and read his paper.

B. S. Rutherford, Bowling Green, read a paper entitled "The County Society a Necessity."

THE NECESSITY OF COUNTY MEDICAL SOCIETIES.*

By B. S. RUTHERFORD, Bowling Green.

In this age of progress there is not a profession, business or trade that can achieve its greatest attainment without organization and co-operation.

The political government of our country is but an organization of cooperative forces, divided into different departments, each and all of which are absolutely essential to the success of the whole.

We have our county governments, our state governments, and our national government, all of which are indispensable links in the great chain of government affairs. The different trade unions that are scattered all over our country are but cooperative organizations, the purpose of which is to protect individuals against corporate greed and advance them in the skillful performance of their duties.

We have in the medical profession as cooperative organizations the County Medical Societies, the Tri-County Medical Societies, the State Societies, Tri-State Societies and societies in which several states are leagued and the great American Medical Association, all of which are important links in the great chain of organized and cooperative medicine.

*Read before the Meeting of County Secretaries at Bowling Green, September, 1913.

And in my opinion the most important of which are the county societies.

There are but a small proportion of the physicians in the United States who are not within reach of a county society. There is not a physician who attends these meetings regularly who is not a better practitioner and occupies a higher plane in estimate of the profession and laymen than he would if he had not attended them.

The beneficent influence of County Medical Societies reaches more physicians, perhaps, than all other medical societies combined. The county societies bring in close touch neighboring physicians and give them an opportunity to become better acquainted with each other and as we become better acquainted with each other we realize that we are not rivals or competitors but co-workers in a great cause and need each other's help and influence.

To illustrate the good that is being accomplished by county medical societies I will say a few words in regard to our own Warren County Medical Society. We never fail to have a meeting once each month. The physicians from the county will come from fifteen to twenty miles to attend. We listen to well prepared papers which are discussed by the members who have read up on the different subjects and prepared themselves to do so to the best advantage. As a consequence our society has become a source of education and instruction which we regard as of inestimable value.

Besides this our county society has fostered a spirit of congeniality and fellowship which universally prevails among our physicians.

I do not suppose there are two physicians in the county who could not meet on the best of terms and extend to each other the right hand of fellowship. I do not suppose there is a physician in the county who would not rally to the support of any other physician who might be imposed upon by an unjust malpractice suit, or any other unjust imposition. To illustrate, I will relate a conversation that I had several months ago with an attorney of our city. He asked me the question, why it is that physicians were so loyal to each other, stating, that such was not the case in the legal profession. He said he recently had a client to solicit his services in a malpractice suit against a physician of Warren county. That he did not know how the physicians found it out, but before night as many as a half dozen doctors had seen him in regard to the matter. That they gave him to understand that every doctor in the county would be arrayed against him in the case, besides by prosecuting so unjust a claim he would incur their undying enmity. To my own knowledge this same man went to several attorneys of our city for

the purpose of bringing suit, but the physicians were on his trail and as a consequence the suit was never brought.

Time and again we have thwarted the plans of the "shlyster" who exists everywhere and who would unjustly take all the life time earnings of a brother practitioner.

It is seldom, indeed, that one of these cases go to trial, and in the two or three instances in the history of the medical profession in Warren County in which they have, there has never been a verdict for damages rendered against a physician.

In my opinion the county societies are sentries from which originates either directly or indirectly practically all organization and cooperation pertaining to medicine.

Without the stimulating influence of the county societies we would not have any Tri-County societies or State societies or societies in which several counties or states are leagued as we have them to-day.

To be eligible to membership to the American Medical Association one must be a member of the county society and also a member of the state society. So without the county societies it is highly probable we would not have a national organization. So you can readily see they are truly a necessity as is expressed in the title of this paper.

I reiterate the fact that county societies are the centers from which originate the influence that is responsible either directly or indirectly for practically all organization and cooperation pertaining to medicine. To realize its importance, lets take a retrospective view and see what has been accomplished by these influences.

By organization infantile mortality has been greatly reduced within the past few years. Longevity to the human race has been extended about seven years. It has banished from our shores for more than forty years Asiatic cholera that once raged with such fearful mortality on the American continent that three millions of lives were lost in the republic of Mexico during the period of one year. It has entered the death region of the Panama Canal country where an individual could not sojourn but a few weeks without almost certain death, and made of it a health resort equal to almost any part of our country.

It has put under our control yellow fever that at times almost depopulated our southern cities and sent people panic stricken from their homes seeking places of safety.

It has robbed smallpox of its terror and in many other respects has accomplished that which has redounded to the good of suffering humanity.

In considering all this I think we should be very proud of our profession and proud of

any influence or organization that has been instrumental in the uplift, especially the county society, which has done so much with their educating and organizing influences.

In conclusion allow me to urge the members of this profession not to fail to attend their County Medical Societies. Do not fail to avail yourselves of the opportunities they afford to make you a better practitioner and a better man. You can well afford to lose the time for the benefit you derive. You need the recreation, one day off each month from business is not too much, especially when spent in this way. Remember you do not even have Sunday as a day of rest, in the discharge of your duties, which sometimes become irksome because of continued demands upon your service which entails a loss of much needed rest, remember that you are perpetuating a work engaged in by the Divine Master while on earth, and be consoled by the thought expressed in His own language that "he who administers unto the least of these little ones administers also unto me."

The Chairman: This excellent paper is now open for discussion. All of us see the necessity of county societies, and I hope some of you will see fit to discuss this very excellent paper.

As there was no discussion on Dr. Rutherford's paper, the nomination and election of officers were proceeded with, with the following result: Chairman, A. C. L. Percefull, Louisville; Vice-Chairman, J. F. Young, Monticello; Second Vice-Chairman, A. O. Sisk, Earlington; Secretary-Treasurer, Lillian H. South, Bowling Green.

OSTEOMYELITIS.*

By A. W. DAVIS, Morton's Gap.

The subject of osteomyelitis is one of great interest to me and has been one of considerable study and worry, especially one case in my early practice, when I was trying to make a mark for myself.

According to Nichols infectious osteomyelitis is an acute suppurative inflammation of the bone and is always due to infection of the bone marrow by pyogenic microorganisms.

Quite a few physicians think of osteomyelitis as a definite disease with always the same clinical symptoms, of local pain, high fever, systemic infection, etc., is not true by any means. Osteomyelitis is a common disease both in its acute and chronic form, the clinical picture is often obscure, and a mistaken diagnosis is not often infrequent. It is subject to which not only the general practitioner, but the surgeon should give more attention. On its proper recognition and prompt treat-

ment depends in many cases not only the life of the patient but in every instance the future function of the limb. Osteomyelitis is essentially a disease of the shafts of the bones, very seldom affecting the joint surfaces, but, as I will illustrate to you in one case in my series, it may be mistaken for a joint lesion on account of the close proximity.

Case I.—A. B., boy of 9, who gives a history of having previously been exceptionally well, not having had any of the diseases of childhood, was brought to my office on August 8th, 1908, suffering with pain on the inner side of left knee, no swelling or fever, I questioned his father closely in regard to an injury he might have had previously, but he could not remember that he had any, notwithstanding this I could not help but believe he had had one or rather had strained the joint, as he was a son of a sawyer and was constantly running and playing over the logs at the mill. I prescribed hot fomentations and gave the salicylates, but in about a week they called again, the father stating the pain had become more severe, boy was unable to rest at all, at this time there was a slight swelling in the middle third of thigh but no pain on pressure, pain was still referred to the knee. I told them to still keep up the same treatment. On August 24th, I was called to see him, the father stating that the boy's leg was swollen so badly, and as there was so much pain, he could not bring him to me. On reaching the home the parents said that about two days previous to my visit the boy got out of the house and started to the mill, about 100 yards away, after having gone about 50 yards he stepped into an ox-track and fell, his brother having noticed him at this time, the boy tried to get up but failed, they carried him to the house, the boy stated he heard something pop. On examination I found the whole thigh very badly swollen, considerable pain on pressure, very little redness, and peculiar to state no fever. The symptoms were so vague I was really up a tree, so to speak, but I could really see nothing but osteomyelitis. I stated to the parents that I would have to operate to remove, possibly, dead bone and drain, so two days afterward I went prepared, thanks to something or somebody, to amputate if necessary. I made a broad incision on the outer side of the thigh, there exuded a dark jelly-like substance. I introduced my index finger into incision, and I could sweep it around completely coming in contact only with needle like particles of bone floating loose. On removal of my finger there was a sudden gush of blood showing conclusively that the femoral had ruptured. I immediately had my assistant, Dr. W. B. Bailey, place an Esmarch around thigh very close to hip, which stopped the flow. I then informed the parents that

*Read before the Hopkins County Medical Society

the only chance for the child was amputation. With their consent I amputated three inches below the hip joint, removed all seemingly dead bone, cleaned out medullary canal completely, stitched up without tension and drained. Healing was perfect. He went along nicely until October 3rd, when he returned to me with stump enlarged to the size of a football, bluish red in color, there was no softening or fluctuation but I went into it with a knife anyway and only got a lot of blood. The boy died on October 12th of broncho-pneumonia. What has been peculiar to me in this case was: no chill, fever, pain only on inner side of knee, bone as rotten as wood for 4 inches in extent and overgrowth of stump afterwards. Looked very much like carcinoma.

ETIOLOGY

As stated by Mallory in discussing the etiology of osteomyelitis we can describe no single cause. Trauma, a neighboring or even distant infection of the soft parts, or some general debilitating or infectious disease produces a local resistance, perhaps a true area of necrosis, and offers the opportunities for the invasion of micro-organisms by means of the blood current. Bones undergoing development seem most prone to infection, and therefore the disease most common in early life, until the adolescent period is passed.

PATHOLOGY.

As there is so much that can be written about the pathology, I will not attempt to try to go into all of it but will give you the words of Goldthwait-Painter & Osgood, in their work on the disease of the bones and joints. The bone marrow is the primary seat of infection, the process usually starting near the epiphysis, but in the diaphysis of the long bones. The multiplication of the organisms produces a soluble toxin, which cause a necrosis of the adjacent marrow cells. The loose structure of the marrow may allow marked extension of the process before frank suppuration occurs, the dense cortex resisting invasion. Solution of the soft tissue of the marrow takes place, the trabeculae may break down, and cavities form in the spongy bone. In the early stages no macroscopic changes may be seen, but usually section is made so late that yellowish, greenish, or hemorrhagic pus, exudes. The irregular arrangement of the alveolar spaces and bony trabeculae with this irregular formation of necrotic areas gives a mottled appearance to the bone on section. Fairly early extension to the cortical bone takes place through the Haversian canals and an inflammatory exudate forms between the bone and periosteum, which is often stripped up for a considerable extent.

A subperiosteal abscess is thus formed. This abscess may break through all the barriers and discharge through the skin, though not rarely fatal toxemia and septicemia ensue before this takes place. Spontaneous fracture or joint suppuration sometimes occurs when the epiphyseal line breaks down. Beneath the stripped up periosteum there is necrosis of at least the superficial layer of the cortex, while if the inflammation destroys the endosteum the viability of the internal layer and the trabeculae may be lost. Sequestra are found where these necrotic areas lie one above the other. An involucrum is formed by the proliferation of the separated periosteum about the necrotic area. A shell of bone is thus built up about the necrotic sequestrum. The destructive process, as has been stated, is irregular in its extension and the repair process is therefore irregular, the granulation tissue and endosteal bone being distributed irregularly. Thus the diseased areas may be encapsulated by fibrous or bony formation and be shut off from the sound portion of the shaft. The regeneration of the cortical bone depends entirely upon the endosteum and periosteum, the bone having apparently little power of repair in itself. If, therefore, both endosteum and periosteum have been destroyed the dense, necrotic, sequestrum must be either spontaneously discharged or removed by operation, leaving a cavity which cannot be expected to close of itself. At times the entire necrotic shaft may be thus encapsulated in an ivory like case of newly formed bone, perforated in many places for the discharge of pus. I will not consider the various types only to classify: We have the acute circumscribed, chronic circumscribed, acute diffuse, the one we most often see, typhoidal, tuberculous, syphilitic, and spinal.

DIAGNOSIS.

Considering the diversity of types, it is obvious that the diagnosis of the condition must be based on the symptom complex, which varies greatly. I will give the acute suppurative or infective only, quoting Eisendrath, the ordinary infective osteomyelitis may arise (1) as complication of a compound fracture, of amputations (from the stump of which I removed a piece of necrotic bone yesterday), or operations on bones; (2) it may follow a slight trauma or exposure to cold and wet; (3) develop in the course of an infectious disease like pneumonia, typhoid, scarlatina, variola, etc. The clinical history is as follows: Disease begins suddenly with severe pain and tenderness over the affected bone, usually of the shaft. A chill often ushers in the disease followed by high fever. The temperature curve resembles greatly that of a typhoid,

being of a continuous type. The limb soon becomes swollen, tender and indurated. The skin glistens, is red, and feels hot. There is rigidity of the adjacent joints. If no surgical relief is given one of two conditions results; (1) a septicemia develops with high fever of a continuous type, rapid pulse, dry coated tongue, delirium, sweats, and diarrhoea. (2) In less severe cases the pus perforates the cortical portion of the shaft and periosteum, and appears beneath the skin as an abscess with distinct fluctuation. The patient may present himself with a sinus leading to necrotic bone, as I have seen in three cases, and give a history of such an acute onset as just described. If the medulla has not been sufficiently drained, the septic symptoms may persist. The fever shows a distinct rise in the evening with morning remissions. The part remains brawny and swollen and considerable pus continues to be discharged from the wound of operation or sinus. Chronic cases may result from the acute. If possible the X-ray should be used as it is the most accurate method of diagnosis except in early cases.

TREATMENT.

According to Ochnerin all cases of osteomyelitis the primary operation should consist in an incision extending some distance beyond each end of the infection in the bone and must penetrate all the tissues down to the bone, including the periosteum. The drainage can still be further improved by the application of a large moist antiseptic dressing, and of course complete rest. A saturated solution of boric acid, or acetate of aluminum, or thirty per cent. solution alcohol in hot water are most useful fluids for the purpose. The entire parts should be enveloped in the dressing and covered with an impervious substance like oiled silk or gutta serena tissue. Fresh solutions should be added from 3 to 6 times daily. The dressing itself need not be removed more than once every two to four days. The pain subsides almost instantly and within a few weeks the incision usually heals, with the exception of a circumscribed point in case the bone does not entirely recuperate. In the chronic cases, we should establish drainage with removal of sequestra, otherwise treatment should be as for the acute form, with a longer period for drainage. In the more severe cases, which do not progress favorably under drainage alone, total extirpation of the infected marrow is advised. The reparative power in the marrow is great, and if the entire shaft is opened and the medullary canal cleaned, no bad results need be expected if care is taken not to injure the endosteum, by curretting. Great care must be taken to preserve the periosteum intact since

only from this or the endosteum can new bone be produced.

I will call your attention to the following cases; C. H., age 26, night watchman. Was mistaken for a prowler by a fellow watchman and was shot with a Winchester pump shot gun loaded with buck shot in the middle third of the left thigh in front, the shot having penetrated a 3-4 inch oak piling before striking him, which only made a superficial bruise of the skin and muscle, he did not quit work from it. In about three weeks he developed typhoid fever and run the regular course of 23 days, never being very sick, his temperature was normal for 8 days when he had a chill, severe pain in the leg at the point where he was shot, swelling, redness. This kept up for ten days, when consultation was had, we went into the leg and found pus, blood and necrotic bone, in removing the sequestrum, the femoral was ruptured, there was absolutely no force used either, things were in a very rotten condition. I tied the vein, artery, nerve and all the sound muscular tissue I thought would hold en masse, and to my surprise, the man went along beautifully, not a spot of gangrene showed up anywhere, and the man is to-day a healthy house painter. Can climb a ladder as well as anyone.

M. P., age 44, had a right lower molar tooth filled some five weeks previous to my seeing him, he stated that the tooth had never ceased paining him since it was filled, swelling in the jaw commenced on the second day. When I saw him he was in a horrible condition, mouth about half open pus and blood running out in stream, awful foul odor. On examination I could feel that seemingly the entire jaw was rotten. I made an incision over the sequestrum and removed the entire body subperiostially, I did this without an anesthetic as he had a time to get a breath. There is no deformity and he can masticate his food to-day as well as he ever could, four years after operation.

I will not take your time to cite other cases, which were along similar lines as the ones already mentioned. I have had four of the lower jaw, four of the femur and two of the tibia.

Vincent's Angina.—Treatment.—In mild cases, best results from use of trichloroacetic acid. Membrane first removed by hydrogen peroxide and wiping with cotton swab; ulcer then anesthetized with 10 per cent. cocaine solution, and trichloroacetic acid applied a few minutes after. Usually 3 or 4 applications at 2 or three day intervals necessary. Tincture of iodine preferably where ulceration extensive. For pain, orthoform. Carious teeth to be cared for. General condition also to be improved.—Halstead.

EARLY DIAGNOSIS OF TUBERCULOSIS.*

By T. C. NICHOLS, Morgan.

The early diagnosis of phthisis rests largely on the history, the symptoms, especially the gastric disturbance, evening fever, and accelerated pulse, and the physical signs. The presence of the tubercle bacillus in the sputum is conclusive evidence of the disease. In all suspected cases the chest and the expectoration should be carefully examined. The onset of the disease is very insidious and is attended by dyspnoea, anorexia, dyspepsia, epigastric distress after meals, pallor, anemia and weakness. Later there develops a slight dry, hacking cough, referred to the throat or stomach and occurring usually in the morning with scanty glassy expectoration. Physical signs, inspection during the early stage shows slight depressions in the supraclavicular, and at times in the infraclavicular regions. Palpation serves to detect increased vocal fremitus over either or both apices, and imperfect expansion. Percussion yields a slightly impaired note in the early stage at either or both apices. Auscultation reveals, in the early stage, jerky inspiration with crackling rales at the apex and prolonged, high-pitched expiration. The microscopic examination of the sputum blood corpuscles and alveolar cells are present in the sputum and may be detected by the aid of the microscope with or without staining. Elastic fibers in the sputum are of great importance, as their presence signifies destruction of tissue somewhere in the respiratory tract. To examine the sputum for tubercle bacilli a small caseous particle should be selected and spread out in a very thin layer on a cover-glass or slide. It is allowed to dry in the air or by passing it through the flame of a Bunsen burner, smeared side up, three times. Ziehl's carbolfuchsin fuchsin 1; alcohol 10; 5 per cent. aqueous solution of phenol 90; is then poured generously over the entire specimen, which should then be held a short distance above the flame for a few seconds until steam is formed. The slide or cover-glass should then be thoroughly washing in running water to remove the excess of the stain. Gabbel's solution of methylene blue 2; sulphuric acid 25, and water 75, is then employed to counterstain the preparation for which a period of about 30 seconds is required. The excess of this stain is also removed by running water after which the specimen is dried and mounted in Canada balsam, the tubercle bacilli show as red rod on a blue background. Other recent diagnostic tests consist in the administration of tuberculin, the Chahette ophthalmic reaction, and the agglutination and serum tests.

*Read before the Pendleton County Medical Society.

PRESIDENT'S ADDRESS.*

By R. M. RANKIN, Covington.

I suppose it is incumbent upon the incoming presiding officer of this society, on this occasion, to present to you a forecast of the work we are to undertake.

The work done by this organization, during its past existence, has been commendable and recognized by friends, and the profession throughout our own State certainly, and perhaps in greater measure in other states than is possible for us to fully estimate at this time.

Next fall our society is to be the host of the State Society at its regular annual meeting, and in order to sustain our reputation for work accomplished, we should begin at once to plan, and engage to perform a greater, a better and a broader work.

To labor unselfishly for another is the best work in the broadest sense. The best work that this society can hope to engage in is work done for afflicted humanity, and by afflicted we mean not disease per se only, but sociological conditions, customs, and practices which in larger part produce disease. Work then is the means to the accomplishment of the task before us, and team work is the kind of work that produces results. Team work in this society amounts to just what it does in big business, or big undertakings of whatever character. It means, conception and performance; conception of the things to be done, and performance, doing of it. It means that we must do the thing for the sake of the society with the same energy, zeal and concern as if it were our own personal affair.

Our programme indicates what is expected along scientific lines. We have omitted the post-graduate course and for the present will have bi-monthly regular meetings. There will be two papers and two persons to open the discussion of each paper at each meeting. It was the idea of the programme committee to have the essayist furnish the discussers with a synopsis of his paper, that the latter may better study and discuss it.

The names of the discussers will appear in the printed programme, and their obligation to bring up their work will be considered equal to that of the essayist. Efficiency on their part will be considered just as important as that of the author of the paper. We feel quite sure that discussion conducted in this manner will be an improvement over what it has been, and that this will still further stimulate and improve the character of the general discussion. Any failure on the part of those taking part in the program will

* Delivered before the Campbell-Kenton County Medical Society.

be lamented when it is unavoidable, and the attention of the society called to it when it becomes a matter of negligence or indifference. It is to be hoped, however, that not a single member will fail to give the necessary time and use his best talents toward the fulfillment of his part.

I would suggest that the election of officers be held on the last meeting night in October in order to give more time to the program committee in which to arrange for the better convenience of the January and February essayists.

In connection with the scientific work, it might be well to state that the society has been proffered a meeting place at St. Elizabeth Hospital, which offer, if accepted, will no doubt be of very great advantage, both to the hospital and the society, the latter especially, inasmuch as clinical material, not otherwise at hand and available, may be procured. This feature, if consummated, should lend much interest and enthusiasm.

The reporters for the daily papers have promised to publish for us any item or items that we may request. Our State JOURNAL continually clamors for the news. These two avenues offer efficient means for the effulgence of the heretofore flickering and hidden light of our society. We owe it to the State JOURNAL to have some sort of report made to it of our meetings, we also owe it to the 125,000 inhabitants represented in this society by their family physicians, to have it published persistently that they may know we are not only working for their interest, but how we are doing it. I say persistently, because the public is slow to absorb knowledge of this character, and just as slow in acting upon it after absorption has taken place.

The parasitic patent medicine propagator is aware of this fact, and also is aware of the fact that the public is quick to forget, and so he practices the art of persistence in flaunting his wares before his misguided and self-advised customers.

It seems to me the time is coming, if it has not already arrived, when medical societies ought to become leaders in certain questions pertaining to the welfare of the citizens, and to this end I would suggest that the society appoint standing committees for civic purposes. Let us extend the interest of medical science from the consideration of individual cases to the solution of broader communal problems. Modern medicine is developing along these lines, and the attitude of the laity's mind and purse is favorable to it; indeed the work of the latter challenges that of the former for the honor of affording the greatest stimuli toward preventative medicine.

Working together, I believe it possible among other things, to have all food stuffs offered for sale in the cities of the two counties, either from stall, store or wagon, to be effectually protected from flies and dirt. If the Campbell-Kenton Medical Society would announce through the press that it meant to have this done, and if necessary it would enlist the aid of all house-keepers and have them refuse absolutely to patronize any vender who failed to effectually protect his wares, I believe it would be done, at least they would keep out dogs and cats. Since the crusade against dairies and their milk product in Kenton County five or six years ago, the decrease in the diarrhoeal diseases has been at least one-third. Physicians who have been in harness sufficiently long will verify this statement.

As a result of the vital statistics law passed by a recent legislature, the people are very much better informed as to preventable diseases and many other things pertaining to their physical welfare than ever before. Within the last fortnight I glanced at the records of death in the health department. There has been much improvement in the keeping of records, and any one who may learn for himself that there is plenty of room for still further improvement. Statisticians are indispensable to education and are doing more toward enlightenment of the world than any one calling.

We ought to render it possible for statistics to be obtained with more facility and accuracy.

I do not believe we will have done our full duty as an organization within the next year until the streets, alleys, back yards, stables, vacant lots, etc., have been inspected and all sources for the breeding places of flies have been reported to us and measures adopted looking toward the best possible riddance of same.

The medical inspector of schools has about 1200 pupils in charge, a number too great to be handled thoroughly. The health department too, for financial and other reasons is inefficient, over-burdened. Too much germ-laden dust is blown from dirty streets into our homes and breathed into our lungs.

I am unable now to outline in detail anything along these lines of preventive medicine, but express briefly the hope that if it meet the approval of the members, committees will be appointed to take up the work and prosecute it successfully.

"We must have our people learn that it is defiance to the laws of hygiene, that brings on sickness and disease. We ourselves, must learn that it is not sufficient for us to teach them the laws of obedience, right living and

well being, but we must force practice of these upon them."

I believe it possible for us to force the practice upon them by tact and persuasion as the health authorities of Fayette County, Ky., did to their dairymen. Once a month the latter see published in the daily papers the average number of bacteria in the milk from each one's dairy. Publicity forces them to obedience and proper practice in order to compete with his fellow for the sale of his products. Publicity of facts is what we need. Let us say that Mr. Dutiful Man at number 1914 Vital Street conducts a grocery and daily market, his goods are protected from flies, are clean, and his prices are right.

A more important fact for us to publish, however, is that the flies are born and reared in a manure pile in the rear of a stable at 1914 Mors Street. Let the committee on sanitation ascertain the location of every breeding place, whether in alley, back yard, stable or open lot, furnish us with the facts that we may through the press, acquaint the public and authorities with the same, and our victory will be half won.

In the name of our society, in the name of our State Society, and for the glory and benefit of humanity, let us up and at it. Having accomplished our purpose, we will doubtless have put our sister cities upon the map, and me thinks I can see, marking our meeting place, inscribed upon an unfurled banner, the plaudit, "Well done, thou good and faithful servant."

PYAEMIA.*

By J. E. L. HARBOLD, La Grange.

The subject allotted to me has been named sepsis. But I prefer the old name pyaemia. This tells you what to expect. While sepsis is divided into three heads, and defined thus: Poisoning by the products of putrefaction, and divided thus: *sepsis intestinalis*, *puerperal sepsis*, and *pyogenic sepsis*.

The first is caused by eating decayed canned meat, sausage, etc. The second the absorption into the circulation of putrefactive matter after childbirth, and the third pyogenic sepsis from the absorption of pus into the circulation causing abscesses in different parts of the body or in the bones.

When I began the study of medicine, when a person had a number of abscesses at the same time he was said to have pyaemia, and as such septic poison was described, and pyaemia meant blood poisoning. The word is derived from pyogenic which means producing pus. Now I do not mean to say the word sepsis was not known at that time for it was

known but not used as it is now. I doubt if the present way of speaking of sepsis is an improvement on the old.

Eriksen who was an authority in those days says: "pyemia" and not sepsis when writing his chapter on blood poisoning and speaks thus:

"The third condition which is present in many cases of pyaemia, and which is probably the active cause of many of the symptoms, is that of blood poisoning.

"Ichoraemia or septicaemia due to the absorption of ichorous or putrid matter and its entrance into the circulation."

In this paper I shall speak of sepsis as formerly called, pyaemia.

During the process of inflammation lymph or plasma is apt to be effused from the blood in the part which has partial death, and this lymph provided the vital forces below, or the treatment inefficient very liable to become pus: living matter of the very lowest organization, which, if by accident, finds its way into the blood through an abrasion, scratch or wound, is liable to give pyaemia, a contagious and infectious disease, due to the presence of the micrococci of pus. Rigors are indicative of pus growth; its progress, its volume, its rapidity, its destructive action can be appreciated, nay calculated by the intensity, frequency and violence of the chills.

The cocci of pyaemia, streptococcus pyogenes are seen occurring singly or in chain. These microbes bear culture well, and when injected into animals give rise to the disease in all of its malignancy. They also cause thrombosis and embolism.

I will relate the history of a case from my own practice that I treated soon after I began the practice of medicine. Give the treatment of this case and then give my treatment of such cases then and to-day.

Theodore H., colored, about 18 years old. Saw him first March 16th, 1877. The thumb at second joint was very much swollen, the skin was tense and glistening and had the appearance of pus in it. I lanced it but only a thin glossy fluid resembling synovial fluid escaped. His left shoulder over scapula was much swollen. I ordered poultices. Internally gave quinine and iron. He did not improve every much; the place I lanced continued to spread his thumb joint was completely disorganized. His shoulder was lanced about May 1st and continued to discharge pus in large quantities. On May 4th at my request, I took him to Dr. Holloway, who amputated him thumb, and suggested that I use a drainage tube in his shoulder. I had lanced the shoulder near the inferior angle of the scapula, and beside this opening, there was one higher up near the spine of scapula which had sloughed through. I used the drainage

*Read before the Oldham County Medical Society.

tube as requested and on the 7th the incised wound had healed so much I did not use it. On the 7th of May I removed the sutures from his hand, and found pus had formed. Locally I used carbolized oil. Internally tr. chloride of iron xxm to the dose. On May 9th I found necrosed bone in wound over the shoulder. His thumb was doing well. Began again to use drainage tube in shoulder. his temperature was 100 pulse 90. This case ran about as above until July 7th, 1877 he had paraplegia. There was an abscess at the junction of lumbar and sacrum measuring 8 1-2 inches long and 4 1-2 inches wide.

He complained of burning in this abscess and also the one at his ankle. A few days later the lumbar abscess broke and three-fourths of a cove oyster can of pus was caught. While he was unable to put his feet forward, if you moved them forward and then tickled his feet he would jerk them back. One peculiar feature about this ease is, his temperature remained so near normal. Generally he rested well at night; if he was restless then there was a rise in the temperature. About August 18th, 1877, he began to have night sweats and they were so profuse that where he lay it soaked through the mattress and wet the slats of the bed. Another thing strange about this case was the number of abscesses that were on his body and had been. First one on right thumb at same time one on left shoulder, one on occiput which remained about nine months and bursted, one in lumbar region, one large one across back from ninth rib on left side across to right scapula; one over humerus, one on left elbow, one on nates, one on right internal maleolus, one on right quadiceps extensor about middle of femur.

March 27th, 1878. There are at this time seven abscesses containing pus, and four wounds where there had been abscess which are discharging pus.

His mother said, "Whenever Theodore would hurt himself the sore was a long time healing. That on one occasion a bee stung him and it was nearly two years healing."

His knees are permanently flexed and cause pain when you attempt to straighten them. During January, 1878, his temperature began to rise and at times was 102 1-2, at other times his temperature was 96 3-4, pulse ranged from 86 to 114. He died June 23rd, 1878, having lingered one year, three months and seven days from the first time I saw him. He had paraplegia ten months. On June 23rd at 9:30, his temperature was 94 1-2. He died that day about 3:30 p. m.

One reason I did not open the abscess: Whenever a wound was made it never healed. I gave cod liver oil, and other such remedies.

To-day I would wash out these abscesses with peroxide of hydrogen. We did not have peroxide of hydrogen in those days 1877-1878. Internally in addition to the iron I would give echinacea also sp. tr of copper; also di-odiven.

DIAGNOSIS, QUARANTINE AND TREATMENT OF SCARLET FEVER.*

By R. B. CASSADY, La Grange.

When fever exists and inflamed sore throat and an eruption over the body, then the diagnosis of scarlet fever can be made. Later on we have desquamation. The most characteristic early symptom of a typical scarlet fever are intense redness of the faucial mucous membrane, sore throat, early and persistent vomiting, fever, thirst and increased pulse rate, the tongue at first may not show the characteristic strawberry appearance, but a coat with the papillae elevated. Sometimes an attack of scarlet fever is ushered in with a convulsion. Older children complain of severe headache and aching of the bones.

Von Lenks says that vomiting ushers in this disease more often than any other disease except pneumonia. "The temperature has no peculiarity about it. It may continue for some time especially if there be any serious complications, otherwise it gradually subsides by lysis towards the end of the first week.

Scarlet fever is an acute infection, specific and contagious disease. This disease presents several types, the mildest is scarlatina simplex and maligna or as Carlett classifies, I like best, simple, septic and toxic. The symptoms as has already been stated are ushered in abruptly, the rash making its appearance within twenty-four hours after the initial symptoms. It may be seen first upon the neck and chest, less often on the small of the back, it is a bright scarlet pin-point flash and occupies the sites of the hair follicles. the rash extends from above downward spreading in a few hours to the arms, usually in twenty-four hours it reaches to the trunk, legs and abdomen.

A point to note is that in contrast to measles and smallpox it is much less marked upon the face and cheeks. The dorsal surfaces of the hands and feet show the eruption, while the palmer and planter surfaces do not usually show the punctate scarlatina rash. The rash shows great variations, sometimes only a small portion of the body shows it and unless close observation is made it may not be observed at all and a faint eruption with slight sore throat with little or no fever may throw us off guard and not until some one in the family

*Read before the Oldham County Medical Society.

takes down with it never would have been diagnosed, as a case which recently came under my observation with Dr. Freeman. When it is diffuse it may be of an intense scarlet or almost purple color. Climate does not seem to affect the poison. It seems to affect America in the fall and winter, but malignant cases have been seen in mid-summer.

Eichart says it is least contagious during the period of incubation, most pronounced at the time of eruption and with the establishment of convalescence the desquamation power of contagion steadily diminishes and the average duration of the period of contagion lasts about six weeks. The greater number of cases occur between the ages of one and three years and next in frequency between 5 and 15 years, then the frequency gradually diminishes.

As to the stage of incubation, authorities differ as to the length of time between the exposure to the disease and the disappearance of symptoms. The usual rule is from a few days to a week, although exceptions will extend the time to several days longer.

The distinct specific case of scarlet fever is unknown, in spite of the immense scientific work. However, owing to the immense amount of work being done it will not be long before the factor of all infectious diseases will be discovered.

TREATMENT.

The first thing to do is to isolate and remove all healthy children and adults. The patient should be given a competent nurse. The best method is to select an upper room or two if possible, with a southern exposure. The nurse should have a cap completely covering her hair, her uniform should be boiled thoroughly after washing and soaked in 1 to 2000 solution bichloride. All secretion from the mouth should be burned and excreta disinfected and buried. The physician should protect his clothes by wearing a gown, which he removes on leaving the patient's room and he should be in the open air at least an hour before calling elsewhere. The temperature of the room should be from 68 to 72 degrees F. Fresh air must be admitted but no draught. Sunlight freely admitted unless this is painful to the eyes, which should be protected. A tepid sponge bath when temperature gets to 103, every night and morning. When the eruption causes intense itching the body should be rubbed with cold cream or carbolated vaseline. Stimulate the enunctories, keep the bowels and kidneys in good working order. A little lemonade or orangeade will be grateful and if fever is very high, aconite tincture, with spirits of nitre with syrup lemon. If pulse gets very weak 1-100 strychnia every three hours. It must be borne in

mind that children with toxaemia bear it well. Digitalis is also indicated if pulse is of low tension. Camphor and ether act well, hypodermatically.

The complications and sequelae of this disease are legion. Each will have to be treated on its own merits, the two most often met with are ear and kidney for which appropriate treatment will be instituted. There are also mixed infections sometimes of a very grave character. The gravity and sequelae of this disease make it one of our most formidable troubles to deal with.

Now as to hygiene and sanitation. These are measures or matters of education which is a slow process but I know of no other way, and there is being done some work along these lines. As to quarantine much can be done to eradicate and control this trouble. It ought to be done thoroughly if it is to be of any great value. Put up red cards with scarlet fever in large black letters, to remain for six weeks, with no one to leave the premises nor any one to enter the house, but the physician and nurse. This card ought to be front and back. In order for strict quarantine to be fully established it is almost absolutely necessary to have police protection in order to do this effectually, but out in the country this is impossible and it is very hard to do in little towns. I find the health officer handicapped, sometimes by lack of cooperation on the part of some careless doctors as well as some vicious and indisciplined, ignorant persons of the laity. I had a little experience along these lines not long since. A mother became very indignant because I prohibited her from writing letters. She said she would go to her neighbor and go into her kitchen and do anything for her without the least trepidation. So you see it is a matter largely of education.

There is much more that might be said but this will suffice this time.

DIAGNOSIS OF APPENDICITIS*

By R. B. CASSADY, La Grange.

The diagnosis of appendicitis is sometimes a very difficult matter and only opening the abdomen will reveal the true trouble within, but by careful palpation over McBurney's point, the diagnosis can generally be made out. Now, in order to make a differential diagnosis between this trouble and other troubles found in this region, is the rub. The varieties of this disease cut quite a figure. We have catarrhal, ulcerative, perforative, and gangrenous stages. The clinical are the acute and chronic recurrent cases. Infection, tumefaction and various degrees of strangulation of the appendicular blind sac appear to be

*Read before the Oldham County Medical Society.

the pathological explanation of appendicitis.

In some families there seems to be a hereditary predisposition to appendicitis. Edehols maintains that chronic appendicitis is the chief symptom and most important complication of movable right kidney. Acute pain in right lower abdomen which may radiate in various directions, pronounced tenderness in the right iliac fossa, McBurney's point; pronounced tenderness, as elicited of the appendix by palpation, nausea, vomiting, fever, accelerated pulse, diarrhoea or constipation may be present. Leucocytosis is a fairly constant symptom. Suppuration is provable by an exacerbation of previous symptoms and increase in size of the tumor or swelling located at McBurney's point, or in the lumbar region or elsewhere.

Perforation of the appendix may be indicated by severe pain, great tenderness and marked rigidity. Pronounced sepsis may be inferred from vomiting, rapid pulse and high fever.

Another diagnostic point I have found by observation that I do not find in any of the text books is made by flexing the leg upon the thigh and the thigh upon the abdomen with some force. If the appendix is involved it will cause great pain, if not a sense of relief is experienced, if it be colic or other troubles.

In renal colic and twists of the ureter the pain radiates into the groin and testicle and there is hematuria or hemoglobinuria. The urine should be examined for small calculi. In indigestion and enterocolitis we have no localized tenderness, no rigidity, no tumor, no tenderness of the appendix on palpation. So in intestinal obstruction palpation of the appendix gives negative results. So in cholecystitis or hepatic abscess we have tenderness on pressure from below the margin of the ribs upward. No tenderness of the appendix on palpation.

Gallstone colic pain radiates to the back on the right side and the appendix is free on palpation. Salpingitis, oophoritis and ectopic gestation are recognized by bimanual palpation of the pelvic organs and the latter is denoted by menstrual irregularities.

Perinephritic abscess on the right side may arise from appendicitis but is usually a complication following an operation for appendicitis if it is independent of appendicitis. The appendix is not tender to the touch.

Tubercular peritonitis is a slow process, palpation of the appendix may be impossible. Mueus colic gives its own characteristic symptoms and the appendix is found to be free on palpation. Coxitis. In young children appendicitis has been mistaken for hip joint disease as the appendix can readily be palpated in children, the differential diagnosis is not difficult. Acute rheumatic myositis of the

rectus abdominis muscles simulates appendicitis.

Appendicitis is usually associated with right iliac tenderness. The Widal serum test will settle the diagnosis in most cases. In typhoid fever the onset is slow and roseola is generally observed. Sibert, of New York, has reported two cases of typhoid fever combined with appendicitis.

Influenza, pleurisy, pneumonia, malarial disease, herpes zoster of the twelfth intercostal nerve and other infections which frequently begin with severe gastric intestinal symptoms, cannot be mistaken for appendicitis by any one who has learned to palpate the appendix.

ACUTE POISONING.*

By J. T. DIXON, Owensboro.

When a physician receives a hurried call to attend a case of acute poisoning his responsibilities begin at once. The importance of his duties in the case can scarcely be overstated. From the very beginning he must have absolute control of every faculty and not share in the general confusion and excitement so likely to be rampant on such occasions. He must be calm and collected for the full exercise of his best judgment that he may put into quick execution his thoughts. The very life of his patient will depend upon these two essentials: good judgment and quick action. So the thing most important in a case of poisoning is for the doctor to be cool and self controlled; for his task involves an intimate knowledge of practical medicine and chemistry and in some instances where a crime may have been committed he must have the analytical mind of a Sherlock Holmes, for of all crimes where skillfully executed, that of a poisoning requires the most learning, acuteness, skill and promptitude for its detection. If death has taken place and no finished history of the case can be had it is the duty of the physician to collect what evidence there may be in sight for future reference. It may be the means of saving the honor of the dead where suicide is questioned or it may be the means of saving the reputation of the living where a crime has been suspected.

Every physician should have at his command a good working knowledge of how to treat the most commonplace cases of poisoning. This does not necessarily require an exhaustive study of the chemistry and antidotes of each and every poison singly and separately, but they may be taken in groups, classified under three separate heads, and all those under each heading with few exceptions treated with the same chemical antidote. First the

*Read before the Daviess County Medical Society.

corrosives, which would include the strong acids and alkalis; second, the specific irritants, which would include arsenic, mercury, iodine, and phosphorus; third, the neurotics, or those affecting the nervous system, which would include strychnine, belladonna, aconite, opium, and other alkaloids, this is by far the larger group.

When studying the first group, the corrosive poisons, nitric, sulphuric or muriatic acid, or the caustic potash or sodii, for an antidote we would instinctively turn to an alkali for an acid poisoning, and an acid for all alkali poisoning. Each counteracting the other ideally. So with two agents, bicarbonate of soda and vinegar, both to be found in every kitchen, we will have at hand a very good chemical antidote for this group of poisons.

The universal antidote for the second group, the specific irritants, such as mercury, arsenic, iodine, phosphorus, etc., would be dilute egg albumin, fortunately another item to be found in every kitchen. However, the best chemical antidote for iodine is starch solution, and the best chemical antidote for arsenic is hydrated oxide of iron or dialyzed iron, a remedy that cannot always be quickly had, yet in the absence of this specific remedy, iron in any form is first made alkaline by mixing with common soda solution or lime water or ammonia water, is indicated.

In the third group, the poisons affecting the nervous system, such as strychnine, belladonna, aconite, opium and other vegetable alkaloidal poisons are all fortunately subject to the influence of one chemical antidote, tannic acid. You cannot make a mistake in giving a solution of tannic acid in any form of alkaloidal or ptomain poisoning since ptomaines are alkaloidal poisons. The potency of the tannic acid solution may be augmented by the addition of iodine in some cases.

It is a fortunate fact that the antidote for many of the common poisons is most always at hand in every household. We can find vinegar for the caustic alkalis, soda for the strong acids, eggs for the specific irritants, salt for the nitrate of silver. Some form of alcohol or epsom salts for carbolic acid, and for the great group of alkaloids, strychnine, morphine, etc., if tannic acid can not be had we can use an infusion of oak bark or even a pot of strong tea. Therefore we do not have to rush to the drug store for dilute acetic acid, when vinegar will do just as well, or calcium hydrate or carbonate of magnesia when common cooking soda will act ideally, or any other preparation of pharmacy when we have most excellent antidotes in commonplace things

Of course, if everything was favorable, certain pharmaceuticals in some cases of poisoning would be preferable and very desir-

able. But we don't want to sacrifice time, we want to realize that the element of time is of paramount importance and that we must use the simple, but active remedies at hand if we would save our case.

It is the duty of the physician to be familiar with the toxic element of such substances as paris green, rat biscuit, matches, fly paper, embalming fluid, etc., that may be innocently taken by children. This knowledge will enable him to administer the proper antidote.

In most all cases of poisoning the stomach tube should be used, while the antidote is being prepared or immediately after it is given. The contents of the stomach should be syphoned away and repeated washings with a more dilute solution of the antidote should be resorted to. There is one class of poisons, however, where the introduction of the stomach tube is contraindicated, and they are the corrosive poisons, the strong acids and caustic alkalis, because of the very great destruction to the tissues by their corrosive action, and because if the antidote is promptly given the poison is completely neutralized and made inert and does no further harm.

It is the duty of physicians to study most carefully the objective symptoms that he may properly class his case and apply the correct antidote. His case may be unconscious with no possible way to get a history or any information as to the character of poison taken. In this event he must know that arsenic in poisonous doses produces violent gastro-intestinal symptoms, vomiting and purging. That carbolic acid leaves a white eschar and has a characteristic odor. That nitric acid stains tissues yellow. That belladonna produces a fixed dilated pupil, dry throat and flushed face. That opium produces a contracted pinpoint pupil, deep slow breathing, and if the poison be in the form of laudanum, a characteristic odor. In fact, he should know the lethal symptoms as well as the physiological

In all cases of poisoning where the chemical symptoms of all the most common poisons. antidote has been given and all danger of further absorption passed, the subsequent treatment of the case must be symptomatic, requiring the judicious administration of physiological antidotes and the application of the principles of general medicine. We must be careful in our anxiety not to over treat the case and give repeated hypodermics at short intervals, thereby adding a new danger to an already exhausted patient.

Erysipelas—Treatment.—Local applications of buttermilk on soft rags, latter to be kept constantly wet with it, gave uniformly favorable results.—Arnold.

THE FORUM

To the Editor:

Those inclined to censure the Illinois Board of Health for refusing reciprocity with other states should read the Chicago Daily Tribune under date of October 27th and 28th, 1913. This paper sent a perfectly healthy reported to a large number of advertising quacks, and without exception the illustrious (?) M. D.'s found the reporter with serious disease and promised a cure for a cash payment of from \$10.00 to \$50.00. The Tribune in addition to the mere petty grafting makes the following charges, "That the pocket of a patient was picked by a "doctor" while the patient was on the operation table".

"That some of the quacks are at least morally and probably legally guilty of killing patients."

"That a number of quacks have maimed patients for life by malpractice."

"That at least one of the quacks habitually attempts to seduce his women patients."

"That two of the quacks operate their business under assumed names, and, living double lives, practice swindling down town while posing as respectable doctors in outlying districts."

It seems from the disclosures made by the Tribune, that the reasonable explanation of the refusal of the Illinois Board of Health to reciprocate with other states is not that they object to the standard of efficiency or character of doctors of other states, but to protect the citizens of other states from the innumerable dishonest, disreputable and quacks infesting Chicago. Surely their purpose is a laudable one.

Another warning might be profitably sounded. It is a well-known fact that Chicago is the "wickedest city in the world;" that murder, hold-ups and other heinous crimes are committed daily with impunity. That saloons, dance halls, gambling places and other luring places of vice are run wide open, quite frequently with disastrous results to the unwary. It is true that Chicago has innumerable honest, honorable and reputable physicians, and a number of medical schools which rank as high as any in the land; still would it not be advisable for the preceptors of medical students in other states, in view of the dangers encountered in Chicago; and to the fact that Illinois refused to reciprocate with other states except to graduates of 1907 and later, which is a direct injustice to these preceptors, to advise their students to go to other medical centers when the schools are as good and dangers a great deal less than in Chicago. To mention a few, New York, Boston, Louisville, Baltimore, Nashville, Philadelphia, Cincinnati, Atlanta, have all first class medical schools in which any student can perfect himself for the practice of medicine,

and without the danger to life and his moral character to be met with in Chicago.

R. H. C. RHEA.

1332 Lunt Ave., Chicago, Ill.

IN MEMORIAM.

The subject of this sketch, Dr. V. E. Smith, was born in Pendleton County, forty-three years ago. He was an active, industrious boy, attending district school and working on the farm, then finishing in the public school. After Butler High School he finished his school days at Georgetown College, teaching school in the country for a time, and reading medicine at home at nights, on Saturdays and between the school terms. He completed his education in Medical College at Louisville, graduating in 1893. He practiced medicine steadily until the spring of 1913, when he was stricken with the disease which terminated his life.

Doctor Smith had many lovely traits of character. He was a close student, a hard worker, a fine listener and possessed a retentive memory. He had a delightful manner, easy to approach friendly, and was an excellent Christian gentleman. A man who never spoke harmfully of others. One of the most beautiful things in his life was his unusual love for his father, who is still living, I think in his eightieth year. The last time I saw him was in the presence of the infirm old gentleman and I remember how hard he tried to assist his father to a seat in the car, when he could scarcely support his own body.

No member of our society could be missed more. It will be a difficult task to fill his place. You remember how clear he made all of his points? It was delightful to hear him. His influence was of such a helpful kind when you were in his presence you felt that you were in superior company. He was an honor to our profession. He loved humanity and had the most wonderful way of showing it. He had faith in us and we have been caught up in this faith of his. He has left behind him his mantle, but who among us is worthy to wear it?

Our society feels keenly its loss. It is not true that "the good that men do is interred with their bones." There is that in the human heart that cannot forget those who deserve our love and esteem whether they be living or dead.

H. C. CLARK,
W. A. McKENNEY,
Committee.

Vomiting of Pregnancy, Pernicious.—Treatment.—Sodium bicarbonate, 5 to 50 grains (0.3 to 3 Gm.) a day, recommended. Part of it often vomited, but some retained. Continue for a week after vomiting stopped. Bowels to be well cleared by colonic flushing. Veronal also found useful.—Lyon.

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EDITORIAL.

TYPHOID FEVER.

Owing to the mild winter, epidemics of typhoid fever have been reported in many small towns and country districts all over Kentucky. It is important to remember that typhoid germs are found only in the bowel movement and urine of those sick with the disease and that the only way a well person can get it is to swallow some of the bowel movement or urine of some one who has the fever. If a doctor will make this plain to each person he attends so that the bowel movement and urine may be properly cared for, typhoid fever will soon be a thing of the past and it is now the most serious disease in Kentucky. As soon as the people have been taught these simple facts and a popular conscience has been aroused on the subject, it will be considered just as criminal to scatter typhoid fever germs as to now scatter strychnine or any other poison.

The bowel movement and urine of those sick with typhoid fever should be discharged into a vessel containing a thick milk made from fresh, unslaked lime or should be thrown into a fire and burned. If received into the thick white wash, they should be kept there, at least, an hour and stirred with a stick once or twice so that the lime gets an opportunity to kill every germ, and should then be thrown out on the bare ground where the sunshine gets a chance to continue the destruction of what life is left in the mass.

It is important for the profession to remember that inoculation against typhoid fever is entirely safe and relatively certain. The Laboratory at Bowling Green is now able to furnish the typhoid serum in syringes ready for administration for ninety cents for the necessary three doses for a single individual or it will furnish enough serum in individual bottles to inoculate ten persons against ty-

phoid fever for \$2.10 or twenty-one cents for each person. In this instance the physician uses his own syringe, carefully sterilizing the needle. In administering the serum, it is important to remember, and it is equally important in giving all other hypodermics, that if one will make a little spot the size of a quarter with good strong tincture of iodine, letting it dry thoroughly, and then make the injection right in the center of this, that practically all danger of local infection is avoided; provided, the needle and syringe are sterile. Within the last two years a few more than six thousand inoculations against typhoid fever have been administered in Kentucky. Nurses and physicians and their families have been pretty generally inoculated. It is important that this movement be carried further and, especially, in our unsewered towns and villages and in country districts where there are no sanitary privies, and this includes practically all of them. Everybody who has not already had typhoid fever, should be inoculated so that they will not have it.

Circulars telling how to build this sanitary privy at small cost may be obtained by dropping a postal to the State Board of Health, at Bowling Green.

HELP.

Many of our members have noticed in the newspapers that Dr. Winters, of Newcastle, Indiana, has had a little daughter stolen from him. Everybody's heart was touched by his loss but Dr. A. S. Brady, of Greenup, writes a practical suggestion that every medical society of Kentucky be invited to ask for contributions to assist in getting up a fund to find the girl. Fortunately, she was found before this call could be issued, but we want to congratulate Dr. Brady on the suggestion and say that we believe that the medical profession of Kentucky would have responded to a man

in an effort to help Dr. Winters. The reason for the success of the Kentucky medical profession in its undertakings is that it is composed of men like Dr. Brady, who have hearts as well as brains, who are actuated by great motives and who know how to do real things that are worth while.

TO OUR READERS.

Half the members of the Association have paid their dues to the county secretary. They are all right and will be in good standing for 1914. These are the last numbers of the JOURNAL that will be received by the ones who have not paid unless payment is made immediately upon receipt of this issue of the JOURNAL. As long as practically every member will pay the dues some time during the year, why not pay now and not be dropped from the roll at all. Take your own case for example: Suppose you should be sued for malpractice some time in the next week or two, of course, if you are guilty of malpractice it would make no difference to you, but just suppose it is one of these ordinary, unjust blackmailing suits brought for a contingent fee by a shyster lawyer. If you are in good standing you would be defended against this sort of suit and unless your dues were paid, you would not be. It is important to remember that of the suits so far brought in Kentucky, less than one per cent. have been brought against specialists, and a little over 99 per cent. have been brought against general practitioners. Then, too, if you are now dropped from the roll, you will miss the JOURNAL for a month or so. Each number is worth more to you than the price of a year's subscription and you are worth more to the Association. Kentucky has the best lot of doctors in the world and we want to show to other states that we are a model for promptness in the payment of our obligations as well as in the services rendered for the common good. Remember that your county secretary is paid nothing for making these collections. He is doing your work for you simply because you have elected him to and it is not fair to him to make him devote the extra time necessary to dun and re-dunning every member or even any member. Please pay your dues today.

ABOUT OUR ADVERTISERS.

A great many readers of the JOURNAL run through the advertisements carefully each issue. We wish every one of them did so. As proud as the Council is of the readers and owners of the JOURNAL—3000 of the best doctors in Kentucky and their families—it is always as proud of its list of advertisers. These

advertisers really publish the JOURNAL. It is big or little, has more or less pages; consequently, more or less good reading in proportion as the advertisers pay us for space. In the past seven years, the JOURNAL has not cost the physicians of Kentucky a dollar but has been printed and published by our advertisers. It is important to remember that these advertisers are carefully selected from an immense number of people and firms who sell things to doctors. In fact, they are so carefully selected that the Council stands ready to guarantee any subscriber to the JOURNAL against loss from any transaction in regard to anything advertised in the JOURNAL. If there is another publication, medical or lay, in this country who does this we do not know it. Under these circumstances, we trust our members will read our advertising pages even more carefully before making a purchase and write our advertisers. If they cannot furnish you with the best products at the best prices, try somebody else but give the advertisers that are helping you and your JOURNAL a chance and remember all the time that the JOURNAL is between you and any financial loss if you deal with them. The whole thing just bears out Kentucky's motto, and in every single thing we do, it is important for the physician to remember "United we stand, divided we fall."

Psychic Heart Murmurs.—Rensch is convinced that heart murmurs are sometimes the effect exclusively of emotional or psychic influences. He reports twenty-four cases of the kind observed during a recent three months; the murmurs varied from time to time, alternating with normal findings. Vaquez calls them "office-examination murmurs," souffles de consultation. Bensch emphasizes as the special features of this group of murmurs their frequency; the exclusive location of the maximal sound in the second left interspace, close to the sternum, and only during systole—he never encountered them at any other point or during diastole; the changeability of the character of the murmur, during change of position of exercise, increasing in some and declining in others; loudest during deep breathing, and encountered in the delicate and pale and also in robust individuals. These murmurs in certain cases have led to far-reaching mistakes in diagnosis and in the making out of medical certificates, and he warns all to be on their guard with such phenomena in the left interspace. He reviews in conclusion the literature on the subject, although his latest citation from American sources dates from 1889.

ORIGINAL ARTICLES

DIAGNOSIS AND MEDICAL TREATMENT OF GASTRIC AND DUODENAL ULCER.*

By CHARLES G. LUCAS, Louisville.

A review of the current medical literature for the past two or three years will show much attention to the subject of gastric and duodenal ulcer. It reminds the writer very much of the discussion concerning acute appendicitis twenty years ago and like that condition at that time there remains much to be settled both as to diagnosis and treatment of the subject now under discussion. The wonderful work of the Mayos and Moynihan has brought forward many new ideas concerning both gastric and duodenal ulcer and step by step, the same wonderful advance in the use of the Roentgen rays in the diagnosis of gastric intestinal diseases has been of moment. We all know that many cases formerly classified under the heading of "gastric neuroses" must have an anatomical base and like in the old days when many cases of appendicitis were overlooked, we can look back and see numerous cases of gastric or duodenal ulcer that have either been overlooked or mistreated.

Surgery has proven to us that duodenal ulcer, formerly supposed to be a rare disease, is not so, and the male is more liable than the female. In 1000 cases operated upon at the Mayo clinic up to January, 1911, 74 1-2 per cent. were males; 25 1-2 per cent. females. From June, 1906 to January, 1911, of 621 authentic cases of gastric and duodenal ulcers that were operated, 201 or 32 1-2 per cent. were gastric and 401 or 64 1-2 per cent. were duodenal while nineteen or 3 per cent. had one or more ulcers of both the stomach and duodenum.

Concerning the diagnosis, W. J. Mayo¹ says, "The diagnosis of gastric and duodenal ulcers is not difficult and the differential diagnosis between a gastric and duodenal ulcer can usually be established but it cannot always be done nor is it essential that it should be. The duodenum above the common duct is a part of the stomach and not a part of the small intestine. It is derived from the primitive foregut the same as the stomach; its mucous membrane is thin and granular; it has no valvulae conniventes and is entirely unlike the small intestine. Apparently it is a vestibule to the small intestinal area and its embryology, its functions and its diseases are those of the

stomach. I believe that it would not be far out of the way if we classified it as part of the stomach, dividing the stomach into the fundus antrum, pyloric canal areas proximal duodenum."

In the diagnosis of this condition, we must group a number of facts, namely, the history, the laboratory findings and the Roentgen ray reports, and the physical examination.

A complete history is most important; the patient usually dates the beginning of the trouble a number of years back. The average, duration of symptoms in a number of statistics was twelve years. It is an important fact that these histories show that for weeks or months at a time the patient would be free from practically all symptoms only to have a recurrence. These recurrences nearly always come with the cold months, patient getting chilled, and the rerudescence apparently depending upon this; at times the whole trouble is started again in injudicious diet or over-feeding. During the warm months the trouble frequently subsides and the patient gets along comfortably.

The most striking symptom is pain, that in the duodenal ulcer is supposed to occur about two to four hours, or even as late as six hours, after eating and is relieved by food; to this peculiarity Moynihan has given the name "hunger pain"; where the pain develops three to four hours after food, he had always found the ulcer tucked back, that is, adherent posteriorly in such a manner as to prevent its delivery into the abdominal wound. So much strength does Moynihan place on a long continued history of indigestion; the relief of pain after food, the development of pain again in two to four hours, increasing in severity with possibly gas and water broth, that although this symptom complex may be present for years without producing any physical sign, it is therefore "not necessary to the attaining of any accurate diagnosis that any examination of the patient be made; the anmnesis is everything, the physical examination is relatively nothing."—(Moynihan²).

Pain is the most constant complaint: In Friedenwald's³ series of 1000 cases of ulcer of the stomach and duodenum, it was absent in only seventeen out of 529 cases. It was most prominent in those cases of hyperacidity. In 429 of the stomach ulcers, it was present in 94 per cent. In the 1000 cases, it appeared within the first hour after meals in 223; between one and two hours in 183; after two hours in 491, and in 38, it appeared irregularly. So far as the effect of food on pain was concerned in 212 instances it was aggravated; in 619 instances, relieved; in 109 instances, food had no effect. In Smithie's⁴ series of 140

*Read before the Kentucky State Medical Association, at Bowling Green, September 2, 1913.

proved cases of ulcer, without food retention pain had a definite relation to ingestion of food in 87.8 per cent.; irrespective of the location of the ulcer 83 per cent. had pain within four hours after taking food; in ulcers involving the pylorus, more than 64 per cent. had pain in from two to four hours after eating. In gastric ulcer we have pain earlier after meals, while in the duodenal ulcer it may appear so late that it is relieved by the ingestion of the next meal.

"Hunger pain" may be due to other causes than duodenal ulcer: Pfahler⁵ in his article on "Pain Explained by Roentgen Rays," says, "Duodenal adhesions draw a portion of the duodenum higher than normal. Then the descent of the duodenum is more abrupt, and at times it may pass downward to the left of the pylorus instead of to the right, as is normal. One can readily understand the nagging aching pain in these cases, which occurs especially where there is some associated inflammation of the gallbladder, duodenum, or stomach and which occurs especially several hours after a meal, for it is at this time that the angle formed by the adhesions is most acute, and the peristaltic waves are strongest in order to carry the food up over the highest point. Each time that these waves or the food contents pass, there is a pulling on the surrounding structure, which causes the pain. This explains, too, the intermitting character of these pains, for peristalsis in the stomach is not constant as one might suppose. It is excited by various factors, and at times is strong and at others weak. Then, too, the pain is more marked when inflammation is present.

Herschell⁶, while believing this view to be correct also adds: "That it may be due to the presence of continued secretion of gastric juice after the stomach has emptied itself or it may be a neurosis and not to be distinguished from the hunger pain so frequently met with in gastric neurasthenia." Allen A. Jones⁷, has contributed a paper on "hunger pain" in which while believing in the importance of hunger pains in duodenal ulcer calls attention to the fact that such ulcers not infrequently exist without pain, haemorrhage may be the first symptom to herald its presence. He also notes that hunger pain may be a symptom of achylia gastrica and of acid gastritis; in catarrhal gastritis the contents show an excessive amount of mucus and a low acidity; in gastrectasia, gastropotosis, enteroptosis or nephroptosis. He also calls attention to "that condition of painful emptiness of the stomach to which Boas gave the name gastral-gokenosis where while hunger is not present, prompt relief is given by eating. In pathological conditions of the gall bladder and ap-

pendix, it is found and the symptom may be an accompaniment of anaemia or a low state of general nutrition and strength. The author concludes his very able paper with this paragraph—"It seems an error to arrive too hastily at a diagnosis of gastric or duodenal ulcer in these cases and to hurry a patient to a gastro-enterostomy on this symptom alone."

From the standpoint of the Roentgenologist, pain in ulcer may be due to

- a. Hypertension (intragastic).
- b. Due to reflex.
- c. Due to irritation of parietal peritoneum. Mills and Carman⁸.

Vomiting: In Friedenwald's series this was a symptom in 67.6 per cent.; in Smithie's cases, in 70.7 per cent. this constituting 99 cases in which fifty vomited but had no haematemesis; 31 vomited and also had haematemesis while 18 had haematemesis alone. Vomiting may not be a constant symptom, but in a certain proportion of cases may occur immediately after taking food but more often about three hours after, about the time digestion is at its height. Owing to the relief offered, many patients induce vomiting. The use of soft food tends to prevent vomiting; of coarse food to augment it, hence many patients limit their diet because of this fact.

Haemorrhage: According to W. J. Mayo, not over 30 per cent. of his cases gave a clear history of haemorrhage although nearly 70 per cent. of haemorrhages were procured through a history of black stools. He thinks this symptom of least value, and as far as "occult blood" in the stool is concerned believes that it must be corroborated by other evidence of a substantial nature. On the other hand, Moynihan believes that "a certain degree of haemorrhage occurs in many cases without being recognized; the surface of the ulcer when fretted, probably bleeds a little and if the stools were carefully and regularly examined, traces of occult blood would surely be found." In Friedenwald's 529 cases of duodenal ulcer, a history of melena was obtained in 54 per cent. In these 529 the test for occult blood was made in 381 and was positive one or more times in 83 per cent.

Physical Examination: Usually some loss in weight is shown, although duodenal cases are thought to be little better nourished owing to the increased food consumption. The point of tenderness is upward and to the right from the umbilicus, although it may not be localized exactly in gastric ulcer. Occasionally, backache is complained of and Boas has called attention to tender points on the left side from the ninth to the twelfth dorsal vertebra. Wm. Gerry Morgan⁹ believes that even in a subjectively latent ulcer, slight localized tenderness or the least rigidity may

be made out. He mentions Hall's operated cases where tenderness was made out in 70%, while rigidity appeared in 66%, and states that he hesitates considerably to make a diagnosis if tenderness is absent.

Laboratory findings are of great interest taken in connection with the history of the case and are of real value. It has long been taught that in gastric and duodenal ulcer, hyperacidity was the rule, and Moynihan has repeatedly made the statement that "hyperacidity is duodenal ulcer." In Friedenwald's 128 cases of acute ulcer, hyperchlorhydria was present in 47.6 per cent of the 61 cases in the male and 37.3 per cent. of the 35 cases in the female, but 426 cases of chronic ulcer of long duration, hyperchlorhydria was present in only 8.3 per cent. in the male, 91 per cent in the female, the normal acidity being present in 22 per cent. and 19.9 per cent. respectively and hypochlorhydria in 18.6 and 21.8 per cent. On the other hand, in 529 cases of duodenal ulcer, the analyses were made in 402. Normal acidity was found in 48.5 per cent. hyperchlorhydria 35.2, hypochlorhydria 16.1 per cent.

I have always considered the test for occult blood, repeatedly made under suitable precautions, to be a very efficient help in the diagnosis of duodenal ulcer.

F. W. White¹⁰ of Boston, who has paid particular attention to the tests for occult blood, states that none of his cases of so-called hyperacidity, which gave a persistent negative test for occult blood in the stools and stomach contents had proved later to be chronic duodenal ulcers. On the other hand, he had repeatedly examined a large number of peptic ulcers and had not yet seen a single case where both stools and gastric contents gave only negative tests for blood.

Einhorn's¹¹ duodenal bucket: Some four years ago Prof. Einhorn, of New York, introduced his duodenal bucket for the purpose of obtaining the duodenal contents. Since that time the bucket has been used by himself and others in a great many tests for the purpose of determining the permeability of the pylorus and the presence or absence of blood in the stomach. The bucket is best introduced at night and is withdrawn the following morning. Before removing the bucket, a knot is made at the teeth to determine the length of the thread in the digestive tract, and naturally, the patient is enjoined from taking at the evening meal anything that might cause a stain on the white silk thread that could resemble blood, such as coffee, jelly, claret, etc., and according to Einhorn "the distance of the blood spot, from the knot at the teeth, gave the location of the ulcer; if the lower four inches are stained a golden yellow it will

show that the bucket had passed the pylorus, provided the length of the thread in the digestive tract on removing quite exceeded twenty-two inches. Therefore the pylorus is permeable if the bucket has been in the duodenum, and the contents are usually golden yellow, viscid and slightly alkaline. He also states that the thread test appears to be of importance not only in the recognition of the ulcer, but also as a criterion of the efficacy of our procedure; especially whether a cure has been accomplished or not. In those cases where perfect healing of the ulcer has taken place the test becomes negative.

Dr. M. Gross¹² of New York, suggests the use of his duodenal tube to aspirate the contents for the purpose of examination. He claims that he has not only found a chemical reaction but has also been able to determine the macroscopical presence of blood in the aspirated contents.

In an article in the *Journal A. M. A.*, upon duodenal ulcer¹³ it is suggested that patients with a history that points to the duodenum should have the contents examined by the simple regurgitant method, viz., the administration of a few ounces of olive oil after the stomach is washed out and is known to be empty. After a half hour, the oil is withdrawn. The oil seems to cause regurgitation, or at least an opening of the pylorus, which allows some regurgitation of duodenal contents into the stomach and the fluid and oil that is then removed will separate on standing. He suggests that an examination of this fluid will give a number of clues as to the condition of the duodenum. Complete examination of the urine and thorough analysis of the blood is always important in every case.

Röntgen Rays: Since subnitrate of bismuth was used by Rieder over nine years ago to demonstrate the gastro-intestinal tract, various media have come into use and with the improvement in apparatus, striking pictures may be obtained so that the use of the Röntgen rays is necessary to make a complete clinical record. In the larger cities it is now possible to send our cases to any one of several good laboratories and at the present time, the expense is the only objection. The findings in both gastric and duodenal ulcer are so tersely summed up by R. D. Carman²⁴ in a recent article that I reproduce here: The radiologic evidences of gastric ulcer comprise:

1. The diverticulum of perforating ulcer.
2. Visualization of the bismuth-filled crater of a callous ulcer.
3. The incisura, or transverse contracture, indenting the greater curvature.
4. Localized pressure tender point on the lesser curvature.

5. Residue after six hours.
6. Acute fish-hook form of the stomach, with displacement to the left and down.
7. Delayed opening of the pylorus.
8. Settling of the bismuth to the lower pole of the stomach, such as is seen in hypotonicity or atony.

In duodenal ulcer there may be:

1. Early free opening of the pylorus, with early clearance of the stomach.
2. Lagging of bismuth in the duodenum.
3. Residue in the stomach (sometimes in the duodenum) after six hours, if there is an obstruction from scar contraction.
4. Pressure-tender point over the duodenum.
5. Dilatation of the cap.
6. Irregular outline of the cap or duodenum.
7. Diverticulum of perforating ulcer.
8. Vigorous peristalsis, especially if there is obstruction.

Differential Diagnosis: The most important condition to be differentiated are cholelithiasis, and simple hyperacidity. In the former, the pain is more severe and may develop very suddenly at any time; I have seen numerous cases where the patient awakened from a sound sleep. It occasionally may develop a short time after meals and as described by the sufferer, is agonizing; such severity is not seen in duodenal ulcer. It is characteristic of gall-stone pain that the relief afforded the duodenal pain by food is lacking, in fact, food is far from the patient's thoughts. Many patients complain of the pain that radiates to the back or to the shoulder, disappearing with the attack. In gall-stone disease, there is not the periodicity of symptoms that we find in duodenal ulcer.

In simple hyperacidity, the history usually develops the cause—overwork, anxiety, and the various causes of nerve tension. Repeated examinations for occult blood in the stool are negative and the good results of treatment are soon apparent.

Medical Treatment: All cases demand treatment; the acute, because of the possibility of cure; the chronic for the same reason even if remote but also to relieve symptoms and though an operation is delayed a few weeks, the patient is usually in better condition to stand it.

The first and most important step is complete rest in bed. Two well tried methods have now been before the profession, one for many years and the other for a few years. I refer to the Von Leube and Lenhartz's. All cases of ulcer are not alike; however, the general symptoms may resemble each other, each case

has some special symptoms that enable the practitioner to vary either method of treatment according to the indications present. Von Leube bases his treatment on the fact that the relief of pain and promotion of healing would be best served, first, by rest; second, by feeding small quantities of soft, unirritating food at short intervals and gradually increasing the quantity and adding to the quality of the food as the case progresses.

In the following out of the Von Luebe method, if the patient has had great pain or has been vomiting, it is advisable for the first forty-eight or seventy-two hours to withhold all nourishment by the mouth, even the use of water and to feed per rectum. We find innumerable formulae of various distinguished physicians for use in rectal feeding. I think saline enemata are preferable to the nutrient as it has been shown that ordinary saline solution given by the bowel keeps up the caloric needs of the body, and are especially commendable because less gastric secretion is produced than where nutrient enemata are employed. Kaufman recommends enemata composed of water, sodium chloride and dextrose as being especially useful in preventing the untoward effects of complete starvation, when nothing is taken by the mouth, and by the use of the Murphy drop method, he states that one or two quarts of normal saline plus five per cent. dextrose solution may be absorbed in twenty-four hours. He believes that where the enemata are well tolerated and the condition of the patient demands it, that they may be used for eight or ten days or even longer. He refers to numbers of cases reported by various authors who enforced rectal alimentation, and total abstinence from nourishment by mouth for periods up to three weeks and the claim is made that this heroic treatment had yielded good results by allowing the ulcer to granulate and heal by the long rest given to the stomach.

After this enforced period of rectal alimentation, or if the patient is able to begin the cure without that necessity, the choice of method presents itself. Naturally, the first object in view would be to prevent the irritation and to allow the ulcer to heal. In the Von Leube method the effort is made to provide only soft non-irritating food that will leave the stomach in the shortest possible time; to continue this method day by day and as the patient's discomfort lessens, and his sense of well being increased, to add cautiously to the diet other articles of food proceeding from the liquid to the pap, custard or like foods and gradually after a space of three to six weeks return to normal, sensible diet, in which all coarse food is avoided. The ideal

food to begin the treatment is milk; it fulfills all the indications; taken in small quantities it gives no distress; it takes up any free acid that is present and remains but a short time in the stomach. In the beginning it may be given hot or cold as the patient prefers, about two ounces every two hours, and if well borne, after the second day this may be increased to three or four ounces at a feeding. Many patients have idiosyncrasies toward milk and in this case the milk must be modified; some patients will take the milk better cold than hot, others the reverse. Others take milk with equal parts of Vichy or take it flavored with vanilla, cocoa and cinnamon, while in other cases it may be necessary to modify the milk with lime water and sugar, just exactly as the modified feeding of milk to children. When the milk is well-borne, however, and the symptoms diminish, it is advisable to add to it after the third day increasing amounts of cream so as to avoid the one defect of this method of dieting, viz.: starvation. At the end of the first week eggs may be added to the diet either beat up in one or two of the milk feedings each day, or given soft boiled by themselves. The number of eggs may be increased from two to four a day and gradually adding sago and rice soups, boiled with milk and various gruels in addition. Butter can also be added to the diet at this stage, in addition to the cream, and besides furnishing high caloric value, can often be taken by the patient, particularly if frozen. Cream, soups and puree of potato will make a welcome change and relieve the monotony of the diet. It is advisable to withhold meat until at least the fourth week, and some clinicians put off meat even longer. It is a consensus of opinion, however, that relapsing cases should continue on the fluid or semi-solid diet for the full course of the cure if possible.

In addition to the soft diet, when the patient first goes to bed, Von Leube has the abdomen washed with alcohol, covered with boracic ointment and over this a flax seed poultice, which is changed every thirty minutes during the day. At night a binder wrung out of tepid water is placed over the abdomen covered by oil-silk or by a towel and kept on till morning. Naturally, if the patient has been the subject of haemorrhage within the previous three months, this procedure does not follow. A number of years ago the late Prof. Lenhartz, of Hamburg, advocated a different method of treatment, especially in haemorrhagic cases, with the idea that the loss of strength and nutrition due to the haemorrhage should be made up as quickly as possible. Lenhartz was of the opinion that the Von Leube method was difficult because of the

fact that the nutritive need of the patient was not satisfied by the diet, that owing to the anemia that was bound to develop, healing of the ulcer would be much delayed. Incidentally, Lenhartz's diet was intended to bind the excess of HCl which is so often present in gastric ulcer. Briefly, the diet consists of feeding with milk and rice, raw ham and butter. For the first day the patient receives two eggs and 200 c.c. of milk; the former is increased by one egg each day until eight are taken, but beginning on the third day patient receives twenty grams of sugar beaten up with the eggs; this is increased to thirty grams on the fifth day, forty grams on the seventh day, fifty grams on the ninth to fourteenth days. Milk is increased by 100 c.c. each until the ninth day when a litre is taken and continued to the fourteenth. On the sixth day thirty-five grams of raw beef are allowed; on the seventh day this is increased to seventy grams, which is continued to the end of the treatment. On the seventh day 100 grams of milk and rice are given and increased on the ninth day to 200 grams, on the eleventh day to 300 grams. Zwiebach, one piece or twenty grams was allowed on the eighth day, two pieces on the ninth and tenth, three on the eleventh and twelfth, and four on the thirteenth and five on the fourteenth. It is not until the tenth day that fifty grams of raw ham are added to the dietary and continued during the rest of the treatment. On the same day twenty grams of butter, which are increased to forty on the eleventh and continued during the course of treatment, are allowed. The feeding of the first day amounts to 280 calories; this is rapidly increased until on the sixth day it amounts to 1,135, on the tenth day 2,478, on the fourteenth 3,073. It is by means of this high caloric equivalent that Lenhartz endeavors to maintain the nutritional balance of the patient and at the same time to bind the HCl and relieve pain. It also relieves vomiting and the recurrent haemorrhage is much less than by other methods. He also claimed a quicker return to strength and working capacity, and lastly, permanent results.

Prof. Max Einhorn about three years ago advocated a new method for treating gastric ulcer that differs from all others in the fact that, by the aid of his duodenal pump, the feedings are thrown directly into the duodenum and the stomach is left at perfect rest. The duodenal tube is one mm. in circumference and 80 mm. long; at one end it has a small perforated metal capsule fourteen mm. long and twenty mm. in circumference. This tube is introduced into the stomach and allowed to remain. After several hours the

aspirator is applied and if it has reached the duodenum a yellow or watery fluid of alkaline reaction will be obtained. If, however, material obtained is acid, then the tube is partly withdrawn and a small amount of water and air forced through it and the procedure repeated. After two or three hours, as a usual thing, capsule is found in the duodenum at the first trial. Through this tube 240 c.c. of milk, one raw egg and fifteen grams of sugar and milk, well beaten, is passed slowly every two or three hours. After each feeding a small quantity of water is forced through the tube to clean it and followed by a syringe full of air, the end of the tube is then clamped until the next feeding. I had the pleasure of seeing Prof. Einhorn feed a case of ulcer by this method and it is astonishing what little inconvenience this patient had in retaining the tube in her stomach for over ten days, being entirely free from pain and practically maintaining her body weight. Dr. Wm. Gerry Morgan has modified the Einhorn method in feeding the patient by the Murphy drop method, attaching an irrigator to the duodenal tube so arranged that about 300 c.c. will pass through an hour, and claims to have had very good results. In fact, in some of his cases, feedings have taken place while the patients were asleep.

Dr. J. W. Weinstein²⁵, of New York, at the 1912 meeting of the American Medical Association at Atlantic City, advocated a new method. I quote from the abstract of his article that appeared in the Medical Record. He stated "that his method for the treatment of ulcer of the stomach was a combination of various remedies proposed at one time or another for the treatment of this condition. The diet was original; the other measures were not. This method did not require a stay in bed; the patient was allowed to go about his business as usual, but hard work was forbidden. His experience with the method had been confined to the chronic type of ulcer. The most of the cases treated belong to that type of ulcers known years ago as hyperacidity, but which had been shown conclusively to be ulcers. This class represented the syndrome of pain, heartburn, belching and sour eructations coming on one hour or more after meals, and with these this method had been a most pronounced success. As to the diet, the patient might take white bread, zwieback, toast, soda-biscuit, corn flakes, farina, cream of wheat, potatoes (mashed only), eggs (soft boiled, hard boiled if they agreed), sugar, fish (boiled only), raw or stewed oysters, baked apples, milk, buttermilk, zoolae, fermillae, viehey, weak tea (in moderation), cocoa. The articles forbidden were: any other food, ali-

fried foods, all seasonings, except the least bit of salt. Meats and broaths were excluded because they stimulated gastric secretion. This diet must be strictly adhered to for four weeks, when easily digested soups and meats might be added. Fried meats were forbidden and all the coarser portions of the meat—sinaews, tendons, burnt or charred portions—could be avoided. Soups and broths should not contain vegetables of any sort. To cure the ulcer he gave bismuth; the carbonate given once a day, in the morning on an empty stomach, had proved most satisfactory. The patient must not have anything for an hour afterward. He has found it expedient to cleanse the digestive tract once a week by the administration of a dose of castor oil to remove the bismuth which had a tendency to accumulate. To check the flow of hydrochloric acid, he gave atropine in doses of 1-100 grain three times a day, or extract of belladonna in doses of 1-5 of a grain. In addition he gave an alkali in the form of magnesium oxide in varying doses, according to the condition of the bowels. For patients who did not do well on this plan he gave, instead of belladonna and the alkali, olive oil in doses of one or two tablespoonfuls ten or fifteen minutes before meals. The stasis of food, if it existed, was met by lavage of the stomach seven hours after meal. If there was but little food present, it should be done twice a week. The motility of the stomach should be determined in every case before starting the treatment. The last step in the treatment was the application of wet compresses to the stomach every night. This course of treatment was carried out for eight weeks and the patient was questioned every week as to whether he carried out the instructions. The results had been very satisfactory and all of his cases had been of long standing, dating back as long as fifteen years, and had taken treatment at the hands of a number of practitioners. The great value of the method was in its simplicity and the lack of sacrifice on the part of the patient."

Dr. George Herschell, of London, makes a number of suggestions in the treatment of duodenal ulcer to which I wish to refer: He advised 1. To make absolutely sure that there is no possible infection from the mouth, even going so far as to suggest X-ray skiagraphs of the teeth.

2. He suggests obtaining some of the duodenal contents by either of the means heretofore spoken of and examine it bacteriologically and if any predominant organism is found, a pure culture is made from it and the opsonic index of the patient determined toward it. If this should be found lowered, a vaccine is made and injected into the patient.

3. He advocates absolute rest in bed with two weeks as a minimum and thinks three would be better.

4. An attempt is made to remedy any deficiency of antipyretic and antilytic substances in the blood and recommends normal horse serum for this purpose, given upon a full stomach.

5. The acidity of the gastric juice must be kept as low as possible, making use of eight or ten ounces of hot vichy water two hours after meals or of the various neutralizing powders.

6. Secure the stomach against distension by preventing pyloric spasm; by giving food in small amounts; by giving the drink, which should be hot water, not with meals but when the stomach is empty, so that it will pass out of the stomach and incidentally close the surface of the ulcer of duodenum.

7. Keep the bowels open freely.

8. Treat the anemia that may be present with hypodermic administration of iron in the form of cacodylate.

9. Follow the diet substantially as outlined above.

So far as drugs are concerned, that are of value in the treatment of gastric and duodenal ulcer, the number is limited. There are three indications to be fulfilled: first, neutralize any excess of acid; secondly, to prevent spasm; third, promote healing. The first indication is met by the use of antacids, particularly magnesium oxide and bicarbonate of soda. These may be given from ten to thirty grains each in powder form whenever the patient begins to feel uncomfortable and repeated three or four times each day, according to the indication. To prevent spasm, the extract of belladonna from 1-8 to 1-4 grain or the tincture from three to eight or ten drops, or atropin 1-200 to 2-100 of grain will suffice. Cohnheim has advocated the use of large amounts of olive oil, 200 to 300 e.e. introduced in fasting stomach each morning; when the stomach tube cannot be used, other observers report good results in the use of one ounce doses, three times a day. To promote healing of the ulcer, bismuth is the drug most favored, either the subnitrate or the subcarbonate. This can be given in a single large dose, one to two drams, in six ounces of water on fasting stomach, or may be given in smaller doses fifteen minutes before feeding throughout the day. After the fourth week many observers believe that beneficial effects are to be derived from the use, beginning with a quarter of a grain in a tablespoonful of peppermint water thirty minutes before feeding and gradually increasing the dose to half grain. It is customary with many clinicians to make use of

the Carlsbad salts in hot water in suitable doses toward the end of the first week. If the combination of oxide magnesia and bicarbonate of soda tend to diarrhoea it may be combined with chalk or bismuth. Bismuth, olive oil and nitrate of silver give the best results introduced through a stomach tube. Kauffman¹⁶ makes a special plea for the use of the tube in those cases of ulcer near the pylorus, accompanied by spasm and continuous hypersecretion and states that he has employed gastric lavage for over twenty-five years in numerous ulcer cases without any bad results, and believes that by removing stagnating and fermenting masses not only eliminates the constant source of irritation of the ulcer and gastric mucosa, but by cleaning the ulcer by lavage, it allows us to bring into full play all those methods of treatment which have been mentioned above. He makes the important suggestion that the cleansing as well as the medical treatment connected with lavage are the most efficient means of treating chronic gastritis, which is the underlying cause of the whole process.

In the treatment of haemorrhage, the first requisite is absolute rest, best secured by morphine hypodermically and repeated if necessary. The application of a light ice bag to the epigastrium aids in checking the flow of blood. The use of ice water by tube is recommended by Ewald; in this country Kaufman has been a warm advocate of lavage believing that thorough evacuation of the contents of the stomach will do more to quiet the organ and stop the bleeding than any other measure; this plan is also endorsed by Billings. Internally, good results have been obtained from adrenalin in repeated doses; from the use of bismuth, both by mouth in divided doses and in one large dose after lavage. In discussing Billings' paper on Internal Haemorrhage, A. S. Von Mansfield states that pure aluminum metal ground into powder and mixed with glycerine into an emulsion like paint 160 grains to the dose will almost magically stop haemorrhage from the stomach except from larger vessels. At the present time normal horse serum has been used extensively and many favorable reports are made concerning it.

How long should an ulcer be treated? This is a question hard to answer because different patients respond differently. I have long been of the opinion that a patient the subject of gastric or duodenal ulcer should submit to the rest cure for at least six weeks. If at the end of that time the symptoms have disappeared or have greatly improved, it is advisable to have him resume his ordinary vocation but under regular and careful medical

observation. His diet should be watched for at least a year, his stools should be examined regularly for occult blood and at first appearance of the return of symptoms, he should be placed in bed again and once more submitted to the rest cure. If, however, after the first six weeks, when the patient is up and about, he does not regain his strength as we should expect, the cure should be tried again for another six weeks, and after this we have little or no improvement and occult blood is still present in the stool, it is best to refer him to the surgeon. I believe that in the past many cases have been overlooked. This has largely been due to the fact that many practitioners take few or no notes of their cases; on the other hand, many cases have not done well because of the fact that they were not willing to submit to the absolute rest in bed and strict diet insisted upon by the careful clinician. I believe the time is coming when the diagnosis of ulcer will be made early because of the fact that every practitioner will take a more complete history of all cases and will make every test to help the diagnosis.

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DIAGNOSIS AND INDICATIONS FOR OPERATION IN GASTRIC AND DUODENAL ULCERS.*

By A. DAVID WILLMOTH, Louisville.

With all that has been said and written about conditions in the abdomen it was not until recently that we had our attention directed to the great frequency of ulcers in this geographical area, and especially to ulcers in the duodenum. The knowledge now in our possession was gained largely by accident in operating for supposed gall-bladder troubles.

The information concerning these patho-

logical lesions must necessarily be had at the operating table and not from the post-mortem room, for it is a well known fact that many influences may become active shortly before or at the time of death that would mask the primary lesion and cloud the condition as it existed in life. In other words, changes and terminal infections may prevent a correct interpretation of the signs and symptoms manifested early in the disease, striking illustrations of which are seen in gall-bladder and appendiceal involvements also in extra-uterine pregnancy.

Ulcers in the duodenum are best divided for the sake of study into those that are acute (or punched out) and the chronic (or indurated varieties).

The acute form may be in extent anything from erosion of the mucous membrane to the sub-mucous or muscular coat, or may even extend through the entire wall and liver or pancreas or some other organ form the floor. The walls are undermined and irregular and often have a sloped appearance. When seen at the operating table, the acute ones of course, if perforated, look as though a large leather punch had been used to make the clean cut hole in the gut wall, while in the more chronic the wall will show a milky white or grayish white spot, soft and indurated riding the wall, or extending over it in flap shaped fashion which can be easily seen. In those cases which come for early diagnosis or those coming with symptoms complex for an opinion, we should have in mind the following facts, and in order to obtain these facts, let me insist upon the most careful taking of the patient's history. Commit no sins of omission.

Since males are more often affected than females in the proportion of from 58 to 42 (according to Friedenwald, *Journal Medical Sciences*, Vol. 144, page 164, 1912) to 79 to 21 (*Osler's System of Medicine*, Vol. 5, page 208) this must be taken into account in taking the case history.

The following table from Friedenwald is worthy of reproduction:

YEARS	MALES		FEMALES	
	NO.	P. CT.	NO.	P. CT.
10-20	31	5.8	24	4.5
20-30	85	16.1	74	13.9
30-40	87	16.4	62	11.7
40-50	66	12.4	25	4.7
50-60	11	2.0	32	6.9
60-70	27	5.1	5	
	307		222	

Age: So also age, while Oppenheimer found 15 cases in infants, we know this to be rare indeed, the most common time being around 30 years, from 30 to 40 furnishing 66

*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

out of 330 cases. (Osler's System of Medicine Vol. 5, page 208).

The following table is in detail of 12,598 cases of various gastric disturbances studied by Friedenwald 100 of which had ulcers.

AGE	CASES	P. CT.
0-10	2	0.20
10-20	162	16.20
20-30	345	34.50
30-40	229	22.9
40-50	128	12.50
50-60	53	9.30
60-70	38	3.80
Over 70	3	0.30

After the sex and age, comes the personal history of the patient. Since a large percent of ulcers are found in those who fare sumptuously and stimulate their appetites with more or less alcohol, the mode and manner of living must be gone into, to the minutest detail, for when we turn from the definite and clear cut picture as often given by the patient to the physical examination we are at once struck with the absence of any findings of seeming importance.

In those coming for an opinion, the history will be about as follows: That for an indefinite time there has been a sense of fullness, with a persistent acid dyspepsia, with a distinct burning sensation some hours after eating (heartburn), belching of mouthfuls of sour water at the time digestion is at its height (waterbrash); loss of appetite may have occurred, but in many, a real craving for food will be found and the patient has gone from one diet to another with the hope of finding things to eat that would not be followed by pain. The character of food often determining the occurrence and severity of the pain.

Pain. As to the attack itself pain is the first symptom to attract the patient's attention, naturally they begin their story of illness at this point. Find out how long the patient has been having these attacks, how often they occur, what condition the patient is in between attacks, what effect if any has been made on nutrition.

As to the attack itself, find the exact site of pain, if it radiates, where to, the intensity of it, its character, when it comes on, how long it lasts, what gave relief, and what other symptoms accompany it. (Moynihan Duodenal Ulcers, page 9). Moynihan believed that the time of occurrence together with the length and intensity of the attack to be pathognomonic, but this assertion should be taken *cum grano salis*, for the classical hungry pain may, as Gunzberg has pointed out, be due to arterio sclerosis (*Deutsche Med Wochenschrift* No. 28, page 1318-1910). Pain, how-

ever, will be found in about 95.5 per cent. It is to be expected most often in those associated with hyper-acidity.

The severity, duration and distribution of pain will depend on the local condition of the ulcer. Those inflamed will have their sensitiveness increased, so also those whose surface has certain nerve fibres laid bare by necrotic processes will have their excitations greatly augmented.

The pain is due, as Pilcher has shown to the hydrochloric acid coming in contact with the ulcer and the reason for the relief after taking food being due to the activity produced in the duodenal secretions by the presence of food in the stomach. This secretion being alkaline in reaction counteracts the acidity of the stomach contents.

Pain will intermit in more than half of the cases for from one to twelve months. The following table shows an analysis of Friedenwald's one thousand cases of gastric ulcer:

CASES	MONTHS INTERMISSION
94	1 to 2
72	2 to 3
82	3 to 4
79	4 to 5
48	5 to 6
26	6 to 7
38	7 to 8
34	8 to 9
17	9 to 10
20	10 to 11
31	11 to 12
22	12 or more.
—	
563	

In duodenal ulcer the following table shows the intermission:

CASES	MONTHS INTERMISSION
53	1 to 2
36	2 to 3
44	3 to 4
37	4 to 5
34	5 to 6
17	6 to 7
23	7 to 8
29	8 to 9
9	9 to 10
15	10 to 11
14	11 to 12
5	12 or more.

It may be in severity anything from dull discomfort to the most intense, so that the patient will present a cold, clammy skin and anxious, pinched expression. The pain and discomfort coming at first only after the heavy meals of the day, finally being noticed about two or three hours after each meal. If the pain comes on as much as four hours after

eating, it generally means the ulcer is tucked posteriorly. If it comes earlier than two hours, you expect stenosis from retraction or a very active ulcer. Pain is usually located to the right of the middle line and above the umbilical level, in contradistinction to intestinal obstruction where the pain is continuous around the umbilicus.

If the patient is seized by a sharp, agonizing pain, referable to the epigastrium or radiating over the left side, or even to the dorsal region on the right, at the same time shows signs of shock due to gases in the free abdominal cavity, this pain being supplemented by the tenderness and heaviness in the region, together with the symptoms later enumerated, we are safe in suspecting a perforation. Tenderness may be found over the sight of the ulcer provided it is located anterior, and is almost always close to the right costal border, and often found to extend over the entire part of the duodenum.

Epigastric tenderness in cases that are perforated is most severe and comes on early. In most cases of duodenal perforations the tenderness will be moved to the right of the middle line, while in perforation of the stomach, it is to the right of the pyloric, or prepyloric area to be affected, and to the left if the lesion be in the body, or either of the curvatures of the viscus.

The greater tenderness in either duodenal or gastric perforation may be around the umbilicus and has been seen in either iliac fossa, particularly at times to the right caused by the spread along the paracolic grooves, and for the first few hours after perforation the area is quite tender as the epigastrium, making the entire picture look like one of perforating appendicitis. (Deaver, *Journal A. M. A.*, July 12 1913).

Rigidity. This very important symptom has been hinted at previously and now with all the emphasis possible, I beg of you to look for this important sign. Rigidity of the abdominal muscles sets in at once after perforation, is most marked in the upper abdomen, even to the extent of retracting the abdomen, making a transverse depression at the level of the umbilicus. In no condition do we have that board-like rigidity of the right rectus muscle as we see in the perforating ulcer of this area. It far exceeds anything but a most unusual appendicitis or gall-bladder involvement. Many times the scaffold abdomen will be found, and will continue until the peritoneal involvement causes enough distension to overcome it.

The involvement of structures so near the diaphragm causes a peculiar short, shallow thoracic type of breathing.

Could the symptoms be observed from the very moment perforation occurred, and watched the spread of tenderness from above downward, would render the differential diagnosis from perforation of the appendix very much easier, for here we have a spread from below in the iliac fossa to the upper abdomen.

Vomiting will occur in about 50 per cent. of the cases. It is to be especially looked for in those where perforation is suspected, or where stenosis has taken place, hence, a late symptom.

Jaundice, when present, indicates that the ulcer has invaded the ampullae of Vater. It being remembered that a chronic duodenitis may also produce it.

Temperature and pulse are of little value early as is shown in *Journal A. M. A.*, July 1913.—(J. B. Deaver).

TEMPERATURE	PULSE	RESPIRATION
98.3	104	24
99.4	92	24
99.	108	34
97.4	112	32
98.2	78	36
99.0	96	28

The next complication and symptom laid down by Moynihan of such great importance is hemorrhage. This symptom may be expected in approximately 23 per cent. of gastric ulcers, 26 per cent. in acute, and 40 per cent. in chronic duodenal ulcers (Moynihan *Duodenal Ulcers*, page 113). (Northagel *Encyclopedia*, page 245).

In many it amounts to the small loss caused by the food products teasing the ulcer surface, and is to be found only after close and painstaking examination lasting over many days. In the duodenal cases where a severe hemorrhage follows an acute exacerbation of digestive disturbances it holds up to the physician signs of eminent danger and lost opportunities. Being far more serious than gastric hemorrhage.

Bleeding from the duodenal ulcer may be in any one of four varieties. First, latent and insignificant; second, those that intermit; or infrequent and moderate in amount; third, those becoming worse after symptoms develop. In these the bleeding may be coming repeatedly and copiously, therefore perilous and perhaps fatal. In the fourth class, the hemorrhage is sudden, overwhelming and fatal.

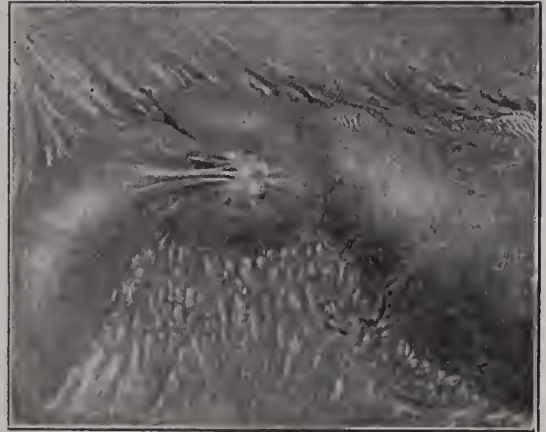
It is in these cases that Einhorn duodenal bucket or catheter, or its modification by Morgan of the B. B. shot in a five grain capsule with a No. 8 braided silk cord attached and knotted 75 cm. from the capsule has been of such inestimable value. Its usefulness de-

pending upon its ability to come in contact with the bleeding surface save in the Einhorn bucket, where the duodenal contents, when drawn up, could be examined for a Camidge reaction and early gastric analysis. Such analysis showing little of importance save blood occasionally, and in the chronic ulcer hyperchlorhydria with retention of food.

(If gastric analysis would have shown more, we would not have had to wait for the surgeon at the operating table to learn most of what is now known about this class of cases).

So far, we have said nothing about the subjective symptoms, some of which may be said to be complications. The first of these, to make itself known to the patient is gastric dilatation, this being one of the two conditions associated with duodenal ulcer that Moynihan considers of such great importance.

Gastric stasis sufficient to prevent the stomach from pouring its contents into the duo-



Gastric stasis found in duodenal ulcer is due always to the contraction caused by the partial or complete healing of the ulcer, save in those cases where the stomach is able to empty itself in twelve hours. There it is due to pyloric spasm. Such spasm being reflex and protective as was shown by Cannon and Murphy.—(*Annals of Surgery* 1909, Vol. 43, page 512).

The slow emptying of the stomach affords a two fold protection. First, it protects the ulcer from the acid chyme (a protection it certainly needs). Secondly, it protects by producing certain symptoms a presence of which makes the patient more careful as to the quantity of food taken.

denum in from seven to twelve hours means a duodenal narrowing from pathological causes and is indicative of ulcer. (Einhorn and Gunzburg.) When such obstruction takes place even to a small degree, hypertrophy of the stomach wall muscles take place, (as it does in the heart or intestines from obstruction to overcome) and visible peristaltic waves are noticeable during examination if the stomach is filled.

Blood Test: Leucocytosis will show in perforated cases very early, due to peritonitis.

Shock: In perforation shock comes on only in proportion to the dissemination of the poison in the peritoneal cavity.

Lastly the X-ray has recently been perfected so that with a thorough preparation and a suitable machine the deposits of bismuth may be shown on the ulcer surface, also the shape and size of the stomach itself.

The following table of differentiation will serve to simplify the diagnosis:

DUODENAL ULCER.

- Age 30-50 years.
- Sex—Males.
- Numbers—Usually single, many times latent.
- Pain—Appears late after two hours, eased by diet. Not always referred to middle line. Radiated usually to right side, right costal margin or around to back.
- Season—Seen in cold and wet seasons.
- Tenderness—On right side.
- Cancer in Sear—Uncommon.
- Hematemesis not seen only in connection with malena.
- Malena often, and in excess of hematemesis.
- Symptoms—Orderly in appearance, such as natural history.

Definite attacks, due to recognizable causes, appearing at certain seasons, eased by diet, relieved by alkalies or lavage.

Pain, severe, but bearable; not abrupt in either beginning or relief, chill and sweats not seen; pain never so well localized.

GASTRIC ULCER.

Age—30 years.

Sex—Females.

Number—Often multiple, not so often latent.

Pain—Appears early within one hour, caused by diet, referred to middle line and radiates to left breast and costal margin, and may at times be felt down the arm.

Seasons—Not influenced.

Tenderness—Usually on left side.

Cancer in Scar—Not uncommon.

Hematemesis—Seen frequently.

Malena—Slight and infrequent.

CHOLELITHIASIS.

Such regularity never seen in gall stone disease.

Pain unbearable, abrupt in appearance and abating; food or alkalines do not relieve; chills and sweats as a rule.

Pain in right shoulder blade.

Malena and hematemesis never present.

Hepatic Cirrhosis: A careful inquiry into the anamnesis will clear up any doubts as a rule.

TREATMENT.

Any condition that threatens life in the proportion that ulcers in this area does, must be carefully and conscientiously considered before any line of treatment is even suggested, and especially the operative treatment necessary for relief. Both the internist and the surgeon claim certain of these cases. But all agree that medical treatment should be suggested in early or acute cases (of course not those that have perforated). All likewise agree that surgical means should be employed in the chronic and the stubborn cases. Moynihan advises operation in all cases where there has been repeated attacks, or where hemorrhage has occurred, or motor insufficiency is present.

The indications for any surgical treatment of gastric ulcer, according to Einhorn are as follows.

1. In large, recurrent gastric hemorrhages threatening life, the ulcer ought to be excised in the interval and a gastro-enterostomy established to prevent renewed hemorrhage.

2. Small losses of blood that cannot be checked and endanger life through their persistence require similar treatment.

3. Perforation of the ulcer demands always immediate operation (excision or in-

vagination of the defect and suture) as soon as the diagnosis has been made.

4. An ulcer situated at the pylorus and attended with peristaltic restlessness of the stomach and continued hypersecretion.

5. Advanced stenosis of the pylorus requires gastroenterostomy.

6. Duodenal ulcers accompanied by pylorospasm and beginning peristaltic restlessness of the stomach.

7. Gastric ulcers with formation of a tumor, no matter where the seat (pylorus, small curvature, etc) always demand gastroenterostomy, usually with excision of the tumor. If this tumor is situated in the lesser curvature and cannot be resected, it is still curable in case it is caused by simple connective tissue proliferation caused by ulcer formation.

Personally I do not believe that the acute ulcer should be treated surgically unless it is to relieve such complications as hemorrhage, obstruction, or perforation. Two things must be kept in mind in advising surgical intervention:

First, surgery is mechanical and must benefit in a mechanical way.

Second, not all cases are cured by surgery that submit to operative work. Many ulcers continue to give trouble after operation.

In those cases presenting the group of symptoms above outlined, giving us the so-called "acute abdomen" it seems to me that operation is imperative and should be done at the very earliest possible moment. We can make no mistake by opening, even though in doubt we will find the appendix involved most often, second, the duodenum, third, acute pancreatic perforation, fourth, perforation of the stomach or of the gall bladder (W. J. Mayo, *Journal A. M. A.*, July, 1913, page 38), all calling loudly for surgery, then why wait? All such cases should receive surgery within the first twelve to eighteen hours. Close the ulcer, or plicate the duodenum to obliterate its lumen and fortify the area with the gastrohepatic and the gastrocolic omentum. Make drainage for the stomach by gastrojejunostomy and drain your cavity and you will save the lives of those you have been losing. Surgery fails in its efforts directly in proportion to the length of time that intervenes between the initial seizure and the execution of the operation.

To summarize: The surgeon should operate in the following cases: First, when the symptoms are long continued and do not yield to medical treatment, and particularly when profound anaemia is resulting from the repeated hemorrhage. Second, to control bleeding that threatens life. Third, when perforation has occurred. Fourth, to treat subphrenic and

other abscesses that occur as complications. Fifth, to relieve constriction of the pylorus or an hour-glass contraction. Sixth, to relieve various indefinite symptoms, not necessarily due to the existence of the ulcer but following the healing of one. These symptoms are generally due to adhesions which either alter the direction of the pylorus, constrict the stomach, or tie the organ down to surrounding structures.

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DISCUSSION.

William H. Wathen, Louisville: The subject of ulcer of the stomach and the duodenum and the pathology of gastric ulcer and carcinoma have been very carefully reviewed to-day, so that there is but little left for me to say. In methods of diagnosis and treatment of diseased organs in the abdominal cavity, much progress has been made during recent years. This has resulted from the direct inspection of the organs in the abdominal cavity, and the pathologic examination of specimens removed during the last few years. Cases of medical diagnosis of gastric ulcer are more often incorrect than they are correct, as has been shown by the work of Moynihan, where in over 50 per cent. of operated cases of medical diagnosis there was no ulcer in the stomach, and the pathology was usually found in the appendix. There is no way then of knowing positively the pathology of gastric ulcer or duodenal ulcer until the abdomen is open. It is difficult often to differentiate between gastric ulcer and appendicitis. There is often the association of appendicitis with gastric and duodenal ulcer and gall stones, so much so that there seems reason to believe that there is some etiologic connection. The acute ulcers per se are not the ulcers we are talking about, but the chronic callous ulcers. In acute ulcer, unless complications arise, the cases are seldom surgical, and they are very often or generally of septic origin; these cases usually

recover or die within a few weeks. These are not the ulcers that cause the chronic callous ulcers in the stomach or the duodenum. In callous ulcers we find one situated in the stomach, and three in the duodenum. We were told in the past by various internists, of whom Fenwick is a fair example, that there were ten ulcers in the stomach and one in the duodenum. Now we know there is about one in the stomach and three in the duodenum, just as we find 90 per cent. of duodenal ulcers in the first inch of the duodenum, and about 90 per cent. of gastric ulcers in the small curvature of the stomach in the pylorus. Ulcer in the last portion of the pylorus, known as the pyloric canal of Jönnesco, is seldom seen.

There is no curative treatment for chronic callous ulcer except surgery. Medical treatment may mitigate the symptoms, but it does not cure these cases. Medical treatment, if we go too far with it, sometimes injures these patients, because serious complications may develop. Rest of mind and body, proper diet, good hygiene and sanitation will do about as much as any medical treatment. In many of these patients, especially the duodenal cases, the symptoms will spontaneously disappear, to return in regular order. Patients should be carefully watched by a competent person, and should not be permitted to continue until there is obstruction with food retention, or there is danger of perforation with probably fatal result. The operation should be timely, should not be delayed until complications arise, and now that we have so many internists, who are good diagnosticians, since the surgeon has shown the pathology upon which the symptoms are based, these cases can be referred to a competent surgeon in time to do a proper operation and give the best opportunity for relief. In gastric ulcer it is usually best to excise the ulcer because of its etiologic relation to carcinoma, but this cannot be done in all cases, and if there is any interference with stomach drainage, a gastrojejunostomy is indicated. In duodenal ulcer an infolding by suture may be all that will be required, but if there is danger of obstruction a gastrojejunostomy should also be done. Carcinoma is seldom or never primarily in the duodenum, hence the resection of the ulcer would not be indicated as a precancerous operation. I was especially interested in Dr. MacCarty's paper on the relation of gastric ulcer to carcinoma. His examinations were in operated specimens where you get the pathology of the living at a time when much positive knowledge may be obtained. Pathologic examinations of postmortem specimens are practically worthless so far as giving any facts in the etiologic relation of ulcer and carcinoma, for these patients die of terminal infection and complications that have destroyed the earlier cancer lesions. While carcinoma of the stomach may usually be correctly diagnosed

by the operating surgeon and the pathologist, there are cases where neither know if the disease is benign or malignant, and no one can find the dividing line in ulcer and cancer. It has been shown that cancer on the body probably always develops in a pathologic lesion of some sort, congenital or acquired, then why not believe that this is also true in cancer of the stomach? As these cases are now being operated with less delay, I feel that we will finally show that cancer of the stomach is nearly always developed in a chronic ulcer.

W. W. Anderson, Newport: The interesting and profitable papers we have heard suggest a few thoughts to which I would like to call your attention. They suggest a plea for better service on the part of the general practitioner in making more careful observations, more diligent study of his cases. Let me illustrate what I mean in an extreme degree.

I was called about a year ago in consultation to see a case that gave a history of 20 years of chronic gastric hyperacidity, six years of which gave evidence, according to the history, of attacks of ulceration with hemorrhage, pain, and so on, and the last six months or more obstructive symptoms indicating the presence of cancer, and winding up with perforation and death. Such things ought not occur. A more careful study and examination on the part of the man to whom the case first comes may save many a life in cases of this kind.

Furthermore, I would make a plea for more exploratory incisions in doubtful cases. An exploratory incision in the hands of a competent surgeon is a matter of the least danger conceivable, and is much less dangerous than the continuance of the development of the condition. There should be more exploratory incisions to determine what the real trouble is in the doubtful cases where the disease is confined to these regions. Then a plea for more cooperation in the handling of these cases between the surgeon and the internist. We are now treating cooperatively cases which we did not do before. A case fell into my hands as an internist and was referred to a surgeon for exploratory incision. An ulcer that almost perforated was found, excised, closed, and the case is under our joint observation and care at the present time. And then a plea for more research on the part of the pathologist to determine what is the rock bottom cause of the whole process, for we have not got that yet I think. Is it not true that the majority of these cases give a history of chronic gastric hyperacidity? What is the cause of that? Is it not also true that these ulcers of the stomach and duodenum are usually found to be accompanied by at least local, if not general arteriosclerosis? What is the cause of that? And what is at the bottom of the whole process?

Dr. Wathen in his discussion has said that there is no medical cure for this condition. I would like to ask him, is there a surgical cure either for the condition that is at the bottom of this?

J. Garland Sherrill, Louisville: I wish to emphasize a few points that have been made by the gentlemen who have presented these papers, and one especially, that by Dr. MacCarty as to the difficulty of making a diagnosis or differentiation between benign ulcer of the stomach and malignant ulcer of the stomach. When the pathologist admits the difficulty he has in his laboratory of determining when an ulcer is malignant and when it is benign, we can readily understand how much more difficult it is for the observer with the patient's abdomen closed to be able to make this differential diagnosis, and then when the abdomen is open and under inspection, as surgeons, we are unable to clearly tell whether the case is simply an ulcer or a carcinomatous ulcer. I have had a number of these cases myself which have confused me considerably. Some of them have had infiltration, in one case the infiltration extending well into the liver, and I was positive in my conclusion that the patient was suffering from gastric carcinoma, with invasion of the liver tissue. The patient is well to-day, notwithstanding she did not have an excision of this diseased tissue, but simply a gastroenterostomy. Therefore, I must differ from Dr. Wathen's contention that the only treatment is surgical, or that the treatment for ulcer of the stomach of the chronic type is excision. I will admit that the ideal treatment is surgical for this condition, namely, removal in toto of the ulcerated area, but many of these cases will show a very marked improvement and even permanent recovery from a simple gastroenterostomy. This is especially the case where the ulcer is large, and where the difficulties of its removal are such that the patient will be unable to withstand the operation. These cases have in many instances gone on to cure; therefore, I do not believe it is correct to claim that these cases must be subjected to the removal of the ulcer. I will admit, that when the ulcer can be removed surgically, it is a very desirable thing. I believe also that some cases of even chronic ulcers of the stomach, where the infiltration has not been deep, will get well under properly applied medical treatment. The important thing to all of us, whether we be general practitioners or surgeons, or whether we be pathologists, is to be able to arrive at a conclusion that the patient is suffering from a serious lesion early. Certainly, it is not wise to wait for the development of a mass that can be palpably felt in the abdomen before operative intervention is undertaken. I must confess that in my work on the stomach I have the greatest aid from my confreres on the medical side. The value of

the laboratory research and the examinations cannot be overestimated. We are very fortunate in living in an age when the training of doctors is very much better than it was formerly, thanks very much to your fellow townsman, Dr. J. N. McCormack, who has aided us in this regard. Therefore, we are not so likely to find patients at the present time with a history of 20 or 30 years of chronic gastric disturbance. When I began the practice of medicine, the best of doctors frequently would have patients come into the office and say, "I am having trouble with my stomach," and the doctor would say, "You take medicine and report in the morning." That is all the examination or advice the patient received. At the present time no man has received proper education who has not thoroughly examined the patient physically and also gone into the question of stomach analysis, the analysis of all secretions, and has used the X-ray when it is indicated, and finally performed a surgical operation if it is necessary.

Louis Frank, Louisville: I would like to say a few words on this subject. I think to-day there is practically very little difference of opinion as to the line of treatment that should be carried out in chronic ulcer of the stomach. Thanks to the work that has been done very largely in this line, particularly at the Rochester Clinic, by Dr. MacCarty and his confreres, we know the ultimate termination of ulcers, benign though they be in the beginning and for a number of years, is from a clinical standpoint carcinoma. There can be very little doubt I think in the minds of any of us, either from the medical or surgical side as to the necessity in a certain class of cases of surgical treatment. I say a certain class of cases because medical men insist, some of them particularly, upon giving these cases without reference to chronicity, a six week's course of medical treatment. It is a very difficult thing to tell which are early cases, which are late, which have already undergone cancer changes and which have not. I am afraid of those men, and I think statistics, such as reported by Dr. Lucas, would tend to show that this sort of thing is all right. If they get only the early acute cases doubtless many recover under a course of medical treatment, but how are we to say how long the patient has had a gastric ulcer when he comes to us. Acute ulcer so recognized should be treated first medically, but should we subject all cases, because they have not been previously under medical advice to a six or eight week's course of treatment before advising more radical treatment? I hardly think so. There is no one who has more deference for laboratory work than I. All of our cases are subjected to a careful laboratory examination, but I believe in this particular field of diagnosis, in this particular field of surgery, we have been taught to depend too

much upon laboratory diagnosis. It has been at the expense of the clinical study of the case. Personally, if I had to depend upon the clinical history, or upon a laboratory report, I would prefer by all means the clinical history. The clinical study of the previous history of the patient, going back over years is of most value. This, in most instances, is sufficient with your physical examination, exclusive of laboratory findings, to enable one to make a diagnosis, and the treatment will depend upon one's judgment as to the duration of the disease. We want early treatment in these cases, surgical as well as medical. Early treatment as early diagnosis, depends upon getting a careful clinical history of the case, the anamnesis of the patient, and in this direction we have many of us been very derelict. We do not go into these cases carefully. We may spend a day or two in taking the clinical history which is frequently insufficient. Things will be brought out on the fourth or fifth day which you will not get in the first or second day's history. Careful history of the patient is a most important detail of diagnosis of these lesions, and then not too long with medical treatment. Do not wait for too many classical signs. We have the same things arise here which we speak of in connection with gallbladder disease. Someone wanted to know of Dr. Mayo how he found gallstones, and he replied, "We look for them; we know how to recognize them." So to-day I am satisfied that many cases of gastric ulcer are treated for chronic hyperchlorhydria. Every case of chronic dyspepsia or chronic indigestion means, as a rule, some organic disturbance, and not purely a functional disease. These are most often ulcers, duodenal or gastric, gallstones or appendicitis, all of which are best treated by prompt surgery. We believe then that all chronic gastric symptoms should be viewed from the standpoint of a surgical lesion. Ulcers, acute, medical treatment and rest for six to eight weeks, if recovery ensues watch for a relapse. Relapsing cases of ulcer, and chronic ulcer should all be subjected to early or immediate operation after the diagnosis is made as all non-acute ulcers of the stomach and duodenum are potentially carcinoma.

C. G. Lucas, Louisville, (Closing the discussion on his part): I think Dr. Anderson has touched on a very important point, that these cases need study. There is no question between the internist and surgeon as to what is to be done with a case of duodenal or gastric ulcer when the stage of obstruction of the pylorus has been reached. It is not our fault; we do not take all the blame. Patients take too many patent medicines. When a man comes to me, who has been losing flesh and lost a great deal, who has visible peristalsis, I never delay, I turn the case over to a surgeon within twenty-four hours. When a patient comes to me complaining of pain and hyperacidity, I

should like to examine his stools, examine his blood and urine, and put him to bed and see what results I can get.

I have a man who for fifteen years has had constant symptoms referable to his gastrointestinal tract. He was opened up under a diagnosis of gallstones, but no gallstones were found, but he did have a large duodenal ulcer the size of the tip of my finger. His condition was so bad that we thought nothing could be done for him from an operative standpoint. For fifteen months he has been in better shape than in the past fifteen years. I spoke to him with reference to having a gastroenterostomy done, and he says that he is in too good shape to consider it.

If we take these cases as they come to us, we do get some results from medical treatment, if we study them carefully. If a man has been suffering for ten or fifteen years, six week's medical treatment may put him in better shape. If he has occult blood in the stool, at the end of six weeks, then we should call in a surgeon and say we have such a case, and now is the time for him to take charge of it. I do not think we should let them suffer for ten years and then shove them over to the surgical clinic and have them operated on.

William Carpenter MacCarty, Rochester Minnesota, (closing the discussion on his part): There is really nothing for me to say after listening to these excellent papers and the very fine discussions upon the subjects.

I do not believe that there should be any discussion regarding the question of treatment of acute gastric ulcer, chronic ulcer and carcinoma. There is really no chance for discussion. If I had an acute gastric ulcer and thought it had perforated, I should send for a surgeon. If I had an ulcer which had been acute and had become chronic for several months, perhaps one or two years, or if I had an acute ulcer that had not perforated, I should not allow the surgeons to operate upon me but I would have a good internist put me to bed and give me some of his dietary and rest treatment. But if the ulcer remained for several months or for several years, then I would leave the internist and go to a surgeon, and have him explore to find out, with the aid of a cellular pathologist, whether I had chronic ulcer or carcinoma.

I wish to thank the members of the Kentucky State Medical Association for allowing me this great privilege of visiting my old state and meeting so many fellow Kentuckians in the profession.

A. D. Willmoth, (Closing the discussion): There are two or three points I would like to touch on, and one is the exploratory incision. I think the sooner we come to the point where the internist and surgeon both advise that an exploratory incision be made, the sooner we will be able to relieve many of the conditions that go on

to a fatal termination in people's abdomens that otherwise are obscure. An exploratory incision in a well regulated hospital made by a competent surgeon, who knows how to do abdominal work, can do absolutely no harm except to put the patient in bed for a few days, and he is satisfied of knowing what is there, and if anything can be done, he is satisfied that he has given himself every possible chance of recovery.

I want to call attention to one fact, and that is that all ulcers in the stomach or all of them in the duodenum are not all large ulcers that you have seen exhibited here this afternoon. That has been proven by Dr. William Mayo, who called attention to this in his last collection of papers, that many of the ulcers from which terrific hemorrhages occurred were linear ulcers, and we should look out for mere fissure whenever we operate. It being merely a fissure in the mucous membrane through which blood is coming and would have to be inspected closely, or one would open up the stomach or duodenum, as the case may be and overlook the ulcer completely. I would call attention to the fact that when you make an exploratory incision, do not overlook one of the small ulcers of the linear type that is giving trouble.

As to the incision of the ulcer, Dr. Sherrill spoke in very emphatic terms and very wise terms when he said that not all ulcers can be excised. Many of the ulcers we find so located that an excision would be fatal for the patient. These cases can be drained as suggested, and the patient will make a recovery, and the ulcer will heal, and the patient will die of some intercurrent trouble.

Fracture of Hip, Intracapsular.—Treatment.—Longitudinal traction alone often unsatisfactory in results. Longitudinal combined with lateral traction, however, or wide abduction in plaster of Paris, usually gives serviceable limb. Former far easier to apply and the more suitable the older the patient. Plaster-cast method requires much skill in application, and is better adapted to young patients.—Davis.

Gangrene.—Treatment.—Alternate hot (95 degrees F., gradually raised to 131 degrees F.) and cold (room temperature) baths up to knee used with success in a case of sclerotic gangrene of leg. Pain relieved and normal color regained. Alternate immersions practised 30 to 50 times, morning and evening for over a year.—Borchardt.

DIAGNOSIS IN GENITO-URINARY DISEASES: ITS NEGLECT; ITS URGENT NECESSITY; METHODS BY WHICH ITS REQUIREMENTS MAY BE MET.

By BRANSFORD LEWIS, St. Louis, Mo.

If I should recite the history of a patient who suffered for a year and a half the tortures of unappeased desire to urinate; who strained in repeated efforts to relieve an inflamed bladder and urinary tract; who during that time lost his general health; lost his means of livelihood; expended most of his money; received treatment during all of this period at the hands of practitioners of recognized standing, and at the same time if it were shown that all of his suffering came from the presence of two stones in his bladder that might have been detected in a few minutes' examination, but that such examination had never been made; if it were understood that so large an amount of suffering came from so simple a cause and one as readily relieved as that of stone in the bladder, I believe that you would agree with me, that this patient had not received his just deserts in the way of medical attention.

If I should relate the histories of four patients that suffered similarly, but from a different cause, namely, stones in the kidney; whose lost health and complaints had existed from fifteen to thirty years; who during these periods had been through the hands of twenty or thirty physicians in different parts of the country, all of whom had given prescriptions in lieu of treatment but had never subjected the patients to any form or method of examination, I believe you would agree with me, that these patients had not been dealt with as they should have been dealt with by those who received their confidence and their money.

If I should mention individually three or four hundred genito-urinary cases, human beings that suffered the pangs incident to urinary inflammations, infections and obstructions of various sorts, and who suffered this for indefinite periods of time, because the diagnoses were not made clear by any definite methods of examination, I believe you would agree that they, also, were not receiving a square deal in medical service.

Do not think that I am drawing on my imagination in these allusions. Please do not think I am sentimental for effect. These are

actual conditions that could be observed over and over again, time without number, every year in the practice of the genito-urinary surgeon.

If this be the case, let us arrive at an understanding of the situation, an acknowledgment of its appalling frequency and useless suffering on the part of humanity, and let us adopt methods that will obviate at least a large portion of such suffering. Introspection, now and then, should be relished by the wisest men.

In the first place let us agree that the history of genito-urinary cases and the symptomatology does not enable the practitioner, even the most expert, to make diagnoses of genito-urinary conditions. Symptomatology is unreliable and notoriously misleading for that purpose. The patient with right-sided kidney disease may have all his pain reflected into the left renal region; a kidney may become completely destroyed by a stone developing in the cortex and never a symptom of pain or distress in the years of its destruction; the stressful symptoms of urgency and frequency may be attributed by symptomatology to disturbance at the vesical neck, when, in fact, the origin of this distress may be located in the front or back part of the urethra, in the bladder, in either ureter, in either pelvis or either kidney. How farcical, then, and how futile to rely on symptoms to lead us to a correct interpretation of a case and its appropriate treatment. Let us agree that a reliance of this sort is out of the question.

What are the means and methods that will attain satisfactory conclusions regarding diagnosis, and lead us to success in treatment, instead of gently paving the way to the grave for confiding patients?

The means and methods of the present day are clear cut, are ample and well understood by those who practice examination and the use of various instruments of precision. Investigation along these lines will afford, in a few minutes, more useful and tangible information than one can get by studying the symptoms of a case for months.

To object that such instruments and methods are not within the possession of all practitioners, is to beg the question and does not make a material objection. The ophthalmoscope and X-ray machine are not in the possession of all practitioners, and moreover, they are not capable of being used by all practitioners; nevertheless they should be used on all patients who require them, whose eyesight is to be saved by the one, or whose life is to be saved by the other, and the physician who accepts a patient without giving him the bene-

*Read before the Kentucky State Medical Association, at Bowling Green, Tuesday, September 2, 1913.

fit of the use of such devices is not dealing justly with his patient.

If we agree in these premises, and the conclusion to which they irresistably lead, let us briefly review the means and methods that will give us satisfactory service for diagnosis, and take a glimpse at the widely varying pathological condition of the genito-urinary tract requiring differential diagnosis and appropriate treatment.

In the ensuing illustrations the steps of cystoscopy and ureteral catheterization are shown; the various positions of the instruments and the views obtained by the operator are given. They include, also, illustrations of the methods of applying high frequency electricity through the cystoscope to benign tumors of the bladder, and views of successive stages of recovery from such tumors under the influence of this method of treatment.

Illustrations of various pathological conditions connected with the bladder, the ureters, the pelves and the kidneys conclude the series of slides.

COUNTY SOCIETY REPORTS

Boone—The Boone County Medical Society held its regular monthly meeting at Burlington, on December 31st, 1913. The society met with the secretary, M. A. Yelton, who entertained with a banquet at the Boone House.

C. M. Friche, of Cincinnati, read a very instructive and entertaining paper on "Mucous Colitis," and exhibited X-ray plates showing how ptosis of intestines would cause the condition.

J. A. Richmond, of Bellview, read an excellent paper on "Pellagra," and reported a number of cases that had come under his observation while practicing in Southern Tennessee.

The following named physicians were elected as officers of the society for the ensuing year:

President, B. K. Meniffee; Vice President, J. A. Richmond; Secretary-Treasurer, O. E. Senour; Delegate to State Meeting, H. H. Hays; Board of Censors, M. A. Yelton, S. B. Nunnely and J. H. Blackburn.

The next meeting will be held at Walton, January 21, 1914.

B. K. MENIFFEE, Secretary, pro tem.

Boone—The Boone County Medical Society met at Walton, at the hospitable home of B. K. Meniffee. After a bountiful turkey dinner was served, the regular program was proceeded with.

J. E. Grieve, of Cincinnati, read a very interesting and instructive paper on "Heart Irregularities," which was enjoyed by all present.

M. L. Heidingsfeld, of Cincinnati read a paper on the "Diagnosis and Treatment of Skin Cancer," giving us lantern slide demonstrations.

This paper was equally as instructive and interesting as the other.

S. B. Nunnely and **M. A. Yelton** were appointed a committee to draft suitable resolutions regarding the death of the venerable mother of Dr. H. H. Hays, of Bullittsville.

We had the honor of having with us at this meeting, Drs. Grieve, Heidingsfeld, Langsdale, of Cincinnati; Crisler, McKim, Slater and McCord, of Ludlow; Dr. McCullum of Erlanger.

Only five of our own members were present: Drs. Yelton, Nunnely, Richmond, Senour and Menefee.

O. E. SENOUR, Secretary.

Carter—The Carter County Medical Society met in the office of Dr. O'Roark at Grayson, February 10th. Present: J. L. Lyon, Vice-President, Willard; G. B. O'Roark, Secretary, Grayson; J. W. Stovall, W. A. Horton, Grayson; H. B. Fraley, Willard; D. B. Wilcox, Grayson.

D. B. Wilcox read a paper on "What Would You Do?" which was highly appreciated. The doctor has a way of putting things all his own, that makes all his articles read like romance. I have often thought that if medical literature was worded as he words them, that they would be read with greater avidity and interest. He actually makes belly ache sound like belly ache. You can just see the contortions.

H. B. Fraley reported a case of septic cord, which was discussed at length.

G. B. O'Roark reported a case of probable brain tumor, and a case of congenital hernia.

On the whole we have a very interesting meeting. The boys are enthusiastic and are anxious for the weather to clear up that more of the members might attend.

Officers for 1914, were elected as follows: T. Bays, President; G. B. O'Rourke, Secretary-Treasurer; Board of Censors, W. A. Horton, J. W. Stovall and H. B. Fraley.

The next regular meeting will be held at the same place, March 10th.

G. B. O'ROARK, Secretary.

Calloway—The Calloway County Medical Society held its annual meeting on December 10th, 1913, and elected the following officers for the year 1914: President, E. B. Curd, Hazel; Vice-President, B. B. Keys, Murray; Secretary-Treasurer, W. H. Graves, Murray; Delegate, N. G. Evans.

We meet the second Wednesday in each month at 1:30 P. M.

W. H. GRAVES, Secretary.

Franklin—The Franklin County Medical Society met in regular session February 2nd, at 10 A. M., in the offices of Drs. Williams & Mastin.

Present: Drs. Budd, Mastin, Garrett, Wilson, Heilman, Minish and Williams.

After transacting usual business, and discussing clinical cases, etc., the regular essayist, Dr. A. Stewart, being absent and the other essayist, Dr. Budd asked that his paper be postponed till the next meeting, it not being yet completed, his request was granted.

Dr. Minish called the attention of the society to the death of Dr. W. Len Montgomery, which occurred at the King's Daughter's Hospital, January 12th, 1914, after a lingering and protracted illness, in the 61st year of his age. He is survived by his wife, who was married to him in 1879, she being Miss Lowdenback, a native of Owen county, Ky., having lost their only child, a son, twenty-one years of age, in 1904.

Dr. Montgomery was a native of Carroll county, Ky. After his graduation at Louisville University in 1888, he located at Lockport, where he continued in active practice until his death.

He was a conscientious and efficient physician, was much respected by his clientele and enjoyed the respect and confidence of his brethren in the profession, he was a good neighbor, a kind and affectionate husband and friend, a man of generous disposition, just and willing at all times to extend the same good fellowship to all with whom he came in contact, exacting no less from them.

We extend to his bereaved family our heartiest condolence and sincerest sympathy, it is ordered that this memorial be presented to his family and a copy forwarded to the Kentucky State Medical Journal for publication.

U. V. WILLIAMS,

L. T. MINISH,

Committee.

Drs. Minish and Williams having been appointed to prepare this memorial, when presented was unanimously adopted.

After which the society adjourned to meet again March 2, 1914.

U. V. WILLIAMS, Secretary.

Casey—The Casey County Medical Society met in the county court room in the courthouse in Liberty, on Thursday, January 29, 1914. The officers elected for the present year were: W. J. Sweeney, President; W. A. McBeath, Vice-President; Oscar Dunham, Secretary; H. F. Taylor, Member of Board of Censors; W. J. Sweeney, Delegate to the State Society.

A program was arranged for the next meeting which will be held at the same place on Thursday, Feb. 26, 1914. After interesting and encouraging talks in which all members present took part, and in which much enthusiasm was manifested the meeting adjourned.

OSCAR DUNHAM, Secretary.

Fleming—The Fleming County Medical Society met in the office of Garr, Brice & Garr, on December 17th, 1913, at 2 P. M., with J. C. S. Brice in the chair. Members present: C. R. Garr, J. C. S. Brice, T. B. Vice, J. P. Huff, Boone McClure, Clyde Garr, A. M. Wallingford, Jr., Chas. W. Aitkin and J. B. O'Bannon.

Minutes of previous meeting were read and approved.

J. P. Huff reported a case of "Tubercular Laryngitis Complicated with Typhoid Fever." Patient died second day after the fever was normal.

C. R. Garr reported a case of delivery of a woman of her sixth child. The labor was hard and was followed on the second day by a temperature of 102 and a local peritonitis. The patient finally recovered. The cases were discussed by all the members present. In the case of C. R. Garr it was general belief and expression that the source of infection was a pathological condition before and at delivery.

Boone McClure reported a case of "Puerperal Convulsions." Controlled the convulsions in this case with tr. veratrum in fifteen drop doses, hypodermically. The amount of albumen you find in the urine of these cases will not indicate the severeness of the convulsions you are going to encounter.

C. R. Garr: I think the blood pressure of these cases tell us much. It should be looked after.

Chas. Aitkins: I get happy results from Pilocarpin in these cases.

J. B. O'Bannon: I want to insist upon elimination in these cases. I think it is the secret of success. The society then proceeded to elect officers for 1914, as follows: President, Boone McClure; Vice-President, Clyde Garr; Secretary and Treasurer, J. B. O'Bannon; Censor, A. M. Wallingford, Jr.

J. B. O'BANNON, Secretary.

Shelby—The Shelby County Medical Society met the third Thursday in January, 1914, with the following members present: S. L. Beard, F. M. Beard, Eggen, Lawrence, McMurry, Sellers, Hughes, Buckner, Garvey, Nash, Allen and Locke of the State Board of Health.

E. D. Sellers of Fishersville, read a very timely paper on "Pneumonia," that brought out a very full discussion on this interesting subject, every doctor present taking part, showing that the subject of pneumonia has by no means been exhausted as yet and that every physician is keenly alive to the fact that the treatment of this disease is by no means ideal and that but comparatively little progress has been made along the lines of treatment in the last few years.

J. S. Locke reported on the progress of the hookworm campaign in Shelby county, and seemed highly gratified at the cooperation given him

both by the physicians and the laity. The doctor has decided to return in May for a short stay.

Harmon Nash entertained the society with a delightful three course luncheon that was enjoyed fully as much as the scientific part of the programme. For the February meeting Dr. V. R. Jones has promised us a paper on "Anesthesia," which, if it is like the doctor's former papers, will be a treat indeed.

W. E. ALLEN, Secretary.

Pendleton—The Pendleton County Medical Society met at Butler on this date with the following members present: Beckett, Brown, Clark, Cram, Daugherty, Hopkins, Kendall, McKenney, John E. Wilson, Yelton, J. F. Daugherty, Vice-President, elected in the chair.

We had a splendid report of clinical cases, which were discussed freely, and some splendid points brought out. We had only one paper.

C. H. Kendall on "Intestinal Obstruction," which was very good and was discussed by nearly all members present. After which we adjourned to meet the second Wednesday in February, 1914.

W. A. M'KENNEY, Secretary.

Whitley—The Whitley County Medical Society met at Corbin Ky., on February 5th, 1914, at the office of J. H. Parker with the following doctors present: J. H. Parker, C. G. Edwards, B. J. Edwards, C. A. Moss, Wm Cox and Dr. Parker, of Grays, Ky. There were several talks and discussions on medical subjects which were very much enjoyed by those present. There were also several very enthusiastic talks on how to make the Whitley County Medical Society one of the best in the State.

It was moved and carried to have a special meeting of the society at Corbin, Ky., on March 26th, 1914, and invite the county societies of Knox and Laurel counties to be present and make it a tri-county meeting.

C. A. MOSS, Secretary.

Tuberculosis, Articular. Treatment. Thyroid substance indicated in sluggish cases, especially if evidence of thyroid inactivity present. Does should be only 1-6 to 1-2 grain (0.01 to 0.03 Gm.) pro die, and patient watched for tachycardia.—Lereboullet.

Tuberculosis, Laryngeal. Treatment. Submucous cauterization found to heal 70 to 85 per cent. of cases performed with electric cautery. Easier than curettage, and there is no bleeding. Not suited, however, for superficial ulcers on posterior wall, particularly those on the cords, which do better on the old method of lactic acid applications.—Pettit.

NEWS ITEMS AND COMMENTS

Under the auspices of the Georgia Surgeons' Club, a sixty days' tour of the surgical clinics of Europe is being arranged for representative Southern surgeons, to wind up at the meeting of the Congress of Surgeons of North America in London the latter part of July, 1914. Those interested may secure details of the trip from Dr. R. M. Harbin, Secretary-Treasurer, Rome, Ga.

Not suited, however, for superficial ulcers on posing after being confined to the house, and bed part of the time. He having had an ulceration of the cornea.

Dr. W. L. Mosby returned January 4, 1914, from Rochester, Minn., where he had been for the removal of gallstones. He is improving rapidly.

Extra-Uterine Pregnancy.—Chiossone reviews the experiences with extra-uterine pregnancy during 1912, in the women's departments of the ten hospitals of Buenos Aires. There were only four deaths among the 105 cases, and in the fatal cases the women were already infected or exsanguinated. He comments on the variability of the symptoms observed and urges that before any abdominal affection in a woman in the child-bearing age is diagnosed, it is necessary to exclude extra-uterine pregnancy. A doughy resistance in the pouch of Douglas is suggestive of a tubal pregnancy, but about the only positive sign of an extra-uterine pregnancy is the expulsion from the uterus of decidual membrane. An important element in differentiation is a history of some gynecologic affection; the ovum scarcely ever locates outside of the uterus unless there is a predisposition from preceding pathologic changes for the abnormal embedding. Increasing hemorrhage always demands an operation, but if the hemorrhage seems to have stopped he leaves the case to Nature, ready to interfere at need. He gives the details of ten cases; in one the woman passed through two extra-uterine pregnancies. In conclusion he warns that it may be necessary in some cases to be wary in stating the diagnosis of extra-uterine pregnancy, as social and legal questions may be involved. There is always the possibility that the accumulation of blood may come from an ovarian or other tumor in the absence of pregnancy.

Sciatica. Treatment, Good results from X-ray treatment in 11 out of 13 cases. Rays directed usually over lumbar region, sometimes over nerve itself. Small doses only. In cases resisting ordinary medical treatment and galvanic current, radiotherapy should always be tried, especially when sciatica due to compression of nerve-roots.—Delherm.

Regular and Jefferson County Issues Combined

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PRACTICE OF MEDICINE

W. F. BOGGESS

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EDITORIAL.

ANNUAL DUES.

The Kentucky State Medical Association is a chartered body, each member receives his JOURNAL which actually costs more than twice the amount of the annual dues which are \$3.00, and in addition to this are defended from unjust malpractice suits.

Like every other organization which gives something for its dues, they must be paid promptly. Please do not overlook this matter, pay your secretary immediately, clear up this business transaction for the year.

EXAMINATION FOR TYPHOID CARRIERS.

We know that the typhoid fever germ dies after a few weeks residence in the soil, but a new supply is continually being deposited by perfectly well individuals who harbor these germs in their intestines and urinary tract, and are called typhoid carriers. Realizing the importance of discovering these carriers as soon as possible in order to protect the community against an outbreak of this most protean disease, specially prepared containers with minute directions for collecting material will be sent to any physician upon request by the State Bacteriologist, or can be secured at the local depot.

FRESH VACCINE POINTS.

In nearly every portion of the State smallpox is now raging and it is highly necessary that every means for its eradication should be resorted to. Ten thousand fresh vaccine points have been received by the State Board of Health and these will be sent out at any hour, day or night.

It is the duty of every physician in any locality which is now infected with this dread disease to provide himself with these points and should advise that all persons who may be exposed to the disease and those who have not been successfully vaccinated be vaccinated at once. This disease can be only stamped out by prompt action of physicians, and universal vaccination.

The points cost \$6.50 per one hundred. The Board does not receive any money, the account being sent direct to the manufacturer.

TETANUS.

At this season of the year when farmers are beginning their work, wounds from agricultural implements are common, and as is well known these implements are the source from which many of the cases of tetanus originate. Such wounds should be freely opened and thoroughly saturated with tincture of iodine and the patient given 1500 units of anti-tetanic serum, the immunizing dose. This prevents the development of the dreaded disease, lockjaw. If a patient has not received an immunizing treatment and lockjaw develops, it is useless to give small doses of the serum. At least 100,000 units should be injected in divided amounts, 20,000 units every four hours. A case of tetanus in a woman due to an injury of the leg has been reported cured at Hahnemann Hospital, Philadelphia after injection of 85,000 units of the anti-tetanic serum. Another case in our own community was cured. Tetanus developed eight days after a gun shot wound, 125,000 units of the serum was given during a period of three days. The patient made an uneventful recovery. This serum can be procured at the State Laboratory at a very reduced rate.

EARLY DIAGNOSIS OF TYPHOID FEVER.

The physician who has to treat a case of typhoid fever desires to know as soon as possible whether his patient has the disease. There are many cases of fever which in many of its symptoms simulates typhoid that the physician for several days is in doubt as to the nature of the case. Every physician in the State has the benefit of the best equipped bacteriological laboratory in American for an early diagnosis, or he can provide himself with the necessary material to make an immediate test at the bed side for this disease by means of Ehrlich's diazo reaction. This reaction has the following advantages: It can be easily and rapidly completed, requiring only about five minutes time. It requires little material, two or three test tubes and three different solutions.

The reaction is present in nearly every case of typhoid and is specific from a practitioner's standpoint. This reaction may differentiate between a relapse and a complication when other signs fail. This test has its disadvantages.

1. It is not absolutely pathognomonic.
2. It is not always present but the percentage of cases in which the diazo test does not respond is small.
3. It occurs in some other disease especially in acute miliary tuberculosis, but in acute cases of this kind the reaction is rarely, if ever, present during the first week. A specimen of urine should be sent to the State Laboratory within four or five days for the diazo test. The Widal reaction which is used in most hospitals and clinics has its advantages and disadvantages.

First as to its advantages:

It is pathognomonic of enteric fever, thus differentiating it from acute miliary tuberculosis.

It may respond when the diazo test fails.

Its appearance serves to complete the records of hospitals, Vital Statistics Department, etc.

Its disadvantages are:

It is of little or no prognostic value because it does vary or reappear with a relapse. It usually appears late. Some observers do not recommend its use until the second week. It is not always present in true typhoid and a negative reaction does not imply that the patient has not typhoid. A specimen of blood should be sent to the State Laboratory within eight or ten days for a Widal test. The observations of those who have used both the diazo and Widal tests are that where an early diagnosis from a therapeutic standpoint is most important the diazo reaction occurs in

much higher proportion of all cases than does the agglutination test, and is present on the fourth or fifth day. The following table of comparisons are given from "Williams and William's Laboratory Methods."

DIAZO

1. Appears early in typhoid, about the 5th day.
2. Reappears with relapses but not with complications.
3. Technic rapidly completed.
4. Does not differentiate acute miliary tuberculosis.
5. Not always present.
6. Occurs in other diseases not easily confused with typhoid.

WIDAL

1. Appears in typhoid, after the 8th day.
2. Relapses do not influence the test.
3. Technic in simple form takes several hours.
4. Not present in acute miliary tuberculosis.
5. Not always present.
6. Occurs in no other disease.

Therefore physicians should not be surprised that some reports from a laboratory should not give favorable indication of typhoid even though it be a true case and especially they should not expect a reliable report from the Widal when the specimen is sent in within a few days after the disease appears. Every physician should provide himself with the necessary outfit for sending a specimen of urine to the laboratory for the diazo test and after a sufficient length of time has elapsed to make a Widal reaction of value, a specimen of blood should be sent to the State laboratory for confirmation.

HOSPITALS.

The American Medical Association is making up a list of hospitals, furnishing acceptable internship for medical graduates. It will be very creditable to hospitals to be included in this list. None except of the best moral and medical reputation will be listed. If any reader of the JOURNAL is connected with a hospital of this class, which accepts internes, he is urged to correspond at once with Dr. N. P. Colwell, Secretary of the Council on Medical Education, of the American Medical Association, 535 North Dearborn Street, Chicago.

The investigation of hospitals by the American Medical Association is to be most highly commended. Too frequently, grave abuses have crept into the management of such institutions and it is highly desirable that they be investigated in a constructive way by experts as it is proposing to do.

SCIENTIFIC EDITORIALS.

WHAT WE KNOW ABOUT SCLERODERMA.

Pikeville is trying its best to be on the map. The newspapers have been working overtime to advertise Pikeville not for its wonderful location, fertile soil, mineral wealth or its beautiful women, but because it had a case of scleroderma, a disease hitherto unknown (?), wonderful (?) and puzzling (?). It is really ridiculous how a newspaper will take up a medical subject that is well known and speak of it as a disease that was never before known.

Is scleroderma so rare, so puzzling, so wonderful? Kaposi, in his text-book, says: "Although scleroderma on the whole is rare, still a sufficient number of cases are reported in literature, and there is no reason for publishing every case. I myself have seen a relatively large number of scleroderma cases, according to recent calculation, probably between 150 and 200 cases." p. 455.

Every dermatologist and practitioner runs across cases of scleroderma and the disease is not so mysterious.

The Pikeville case being of a child, may not be a real case of scleroderma. There is a disease among children that is almost analogous to scleroderma and it is called sclerema neonatorum. This disease may be present at birth or appear the next ten days after birth. The skin becomes of a pale, white or waxy color and has the feeling of hard leather. The disease, as a rule, commences at the lower extremities, spreads upward over the trunk, especially on the back, then, gradually over the rest of the body, the face, usually, being the least affected. True scleroderma, a disease mostly met among adults, usually starts on the face and upper part of the body. I don't see why the country physician should find this disease so puzzling. Its symptomatology is such that it is very easily recognized. At the last meeting of the American Medical Association, as in many former meetings, three cases of scleroderma were exhibited. Nearly every hospital, having a clinical out-patient department, will record cases of scleroderma. It is due to the lack of knowledge of dermatology among our students that such cases are not recognized. The student should be made to realize the importance of dermatology. Blunders are made quite often. We can recall cases of bromide eruption passed for small-pox; cases of mycosis fungoides and Raynaud's disease, for leprosy; on the other hand, cases of leprosy treated for syphilis; local tubercular affections treated for syphilis, etc.

For the sake of those unacquainted with the

chief characteristics of scleroderma, we will give a short resume of the latest findings in regard to this disease. According to the latest theories, this disease is not only of the skin, but of the whole organism, in which the fibroplastic process affects not only the skin, but salivary glands, axillary glands, bones, muscles and internal organs.

Scleroderma may be limited only to a certain area (*scleroderma circumscripta*), and the generalized or symmetrical type. The first form is not so serious and is amenable to treatment, while the latter form is, in the majority of cases, fatal. It usually starts on the hands or face, seldom on the feet, and it is usually of a vasomotor disturbance. It usually starts with Raynaud's symptoms of local asphyxia and local syncope, the process gradually going into hardening. The fingers usually get thin and shiny, immovable, covered with sclerosed skin and resemble a nail-mass (*sclerodactylia*—Bull's). Later on, shortening of the phalanges is noticed (*mutilatio*).

The histological examination throws very little light upon the etiology of this disease. The epidermis is scarcely changed; the subcutaneous tissue is firm and condensed, though no round-cell infiltration is present. The skin does not pit and cannot be pinched up. The contraction of the skin leads to disappearance of wrinkles; old persons looking younger than their years. We may fear that fashionable old women learning of these facts may be anxious to have scleroderma.

It is acknowledged that scleroderma cannot be connected with infectious or constitutional origin (*podagra*). We are rather inclined to think it is due to disturbance of the functions of some glands. At times we notice its similarity to Basadow's or Addison's disease; neither can you deny its relationship to myxedema.

Since the real etiology of this disease is unknown, some authors try to attribute it to nervous origin. Polotebney, who has made a special study of the etiology of scleroderma, claims it to be of angio-trophoneurosis.

The prognosis is rather unfavorable. Electricity, massage, roborant treatment, and thyroid extract have been found useful.

M. L. RAVITCH.

THE USE OF RADIUM IN LARYNGOLOGY.

In a review of the literature to the use of radium since its introduction in medicine in 1900, Prof. Rethi of Vienna credits A. Exner with its introduction into laryngology.

In 1903, Exner reported two cases of carcinoma, one at the angle of the mouth and the other on the faucial pillar, both of which

were cured by the use of radium. Since then it has been frequently applied in the Vienna throat clinic with varying results.

Its application in lupus and tuberculosis of the mucous membrane has met with favorable results by only a few—the most observers having reported failures.

In scleroma the results have been uniformly good. The results in papilloma of the larynx were also nearly all favorable, though a few failures have been reported. In one case of papilloma, in which radium was applied the growth subsequently became malignant. Polyck and others deem surgery unnecessary in cases of papilloma of the larynx since the advent of the radium treatment.

Radium was frequently applied in cases of inoperable carcinoma. Some of these were reported cured without recurrence—others were sufficiently improved to make the cases operable. On the other hand numerous cases have been reported in which the treatment failed.

Results also differ in the application for sarcoma—some brilliant results and some dismal failures having been reported. In inoperable malignant growths, with recurrent bleeding, marked secretion, foul discharge and pain, radium will in nearly every instance relieve the pain, but there were exceptions here as in the treatment of other conditions.

Excellent results followed the use of radium in teleangectasias and moles. It has also been employed with uniformly good results in scars about the mouth and the nostrils and in stenosis of the larynx and oesophagus, causing softening of the scar tissue without causing inflammation.

The variation in the results obtained by the use of radium depends not only on the extent of the diseased area treated, but also on the amount and radio activity of the rays employed, the method of applying it, whether or not the "cross fire" method is employed, and the thickness and composition of the screen, the size of the applicator, etc. In addition to these factors the susceptibility of the subject, climatic conditions, etc., play a part in the reaction to the radium treatment. Deep seated affections necessarily demand more intense radiation than superficial ones. In the deep seated affections the applicators are screened with heavier lead sheets than in the superficial affections, to absorb the soft rays and exposures, are more prolonged to allow the hard Beta and Gamma rays to penetrate deeper. To absorb irritating secondary rays and avoid painful burns, paper and gauze have been put over the applicator.

In superficial conditions as lupus and tuberculosis large doses applied with or without

this thin screen (platinum) and exposure for shorter periods is advisable. The same method is employed in parts where the applicator can not be applied long, as in the pharynx and larynx. Large malignant growths of the nose and naso-pharynx require intense radiation effect with more prolonged exposures.

In carcinoma radium seems especially to have a selective action affecting the diseased structures favorably without affecting the healthy tissues. It must be borne in mind that the applications applied mildly act as an irritant and rather increase the rapidity of growth and that only the more intense radiation is of service especially in carcinoma of the mucous membrane as throat specialists see it. As it is the deep cells which are not reached by radium treatment all operable carcinomata should be treated surgically rather than with the radium. Those which appear inoperable often improve sufficiently by radium application to become operable. Radium should also be applied at once when recurrence of the growth is noticed. It has also been used after surgical removal as a prophylactic measure. In other words it has been suggested to employ radium more as an aid to surgery than as an independent method of treatment. This is not only true of malignant growths but also of lupus. Radium has been used in malignant growths for purposes other than curative.

In summing up the disadvantages of the radium treatment in laryngology, Rethi speaks of the danger of causing perforation of the oesophagus if applied too long or too severely in strictures or growths. Cases of this kind have been reported by Exner. If the diseased structure involves a large blood vessel it may be eroded by the radium and fatal hemorrhage result. The application of radium in laryngology is especially difficult.

With special reference to the methods of application, Schindler in the October number of *Radium* says: In the mouth cavity the applicator was fastened to a rod of aluminum bronze wire, covered with cotton, the radium or mesothorium being held in place, after having been properly arranged, by having the patient bite on the cotton covered rod. In this way an applicator could be held in place for hours.

Two methods are available to bring the applicators into the larynx and both of these having been utilized. Either the applicator is passed in directly on a flexible rod *per vias naturales* after cocaineizing the mucous membrane, the application lasting as long as the effect of the cocaine makes it possible; or else the applicator is introduced directly into the larynx after a laryngo-fissure has been made.

In applying the radium within a tumor or in artificial openings the applicator must be covered with a sterilized rubber finger cot, which is finally disinfected with tincture of iodine. For the oesophagus a bougie was used into which the mesothorium applicator could be passed.

ADOLPH O. PFINGST.

LIFE AFTER DEATH.

“So when this corruptible, shall have put on incorruption,

And this mortal shall have put on immortality,

Then shall be brought to pass the saying, that is written

Death is swallowed up in Victory.

O! Death, where is thy sting,

O! Grave, where is thy Victory.”

Maurice Maeterlinck has written some interesting and beautiful books. His “Life of the Bee” and his “Blue Bird” are too well known to need comment and we were, therefore, much interested in a recent article of his appearing in the Century Magazine, with the above title. There is no question but that Life after Death is a debatable phenomena, usually spoken of in such terms as “spiritualistic,” “psychical,” etc., and perhaps a review, at the present time, of the attitude of this thinker, may not be amiss.

The physician, in his view of life, may see a great many cases where the spirituality or “soul-life” of the patient is promptly brought to view, but despite all of this and despite his high ethical and idealistic view, he is bound more or less to view life and spirit from a rather materialistic and deterministic standpoint. The physician is closely in touch with human life; it becomes his duty to watch it from the hour of conception; from the first faint wail that announces another spirit’s advent into this vale of tears, to the time when, with the last gasp, the weary lay down their burdens and sink peacefully to rest. No true physician, but what feels that his real endeavor in life is to mitigate suffering, relieve deformity, prolong life, increase the sum total of human happiness and to never do aught or otherwise to take or lessen it.

There are times when, even in spite of all his training, there comes to him a feeling, that he would like to see a suffering soul relieved from its mortal chamber and wafted down the stream, over those dark waters and to that unknown land, peopled with the radiant hope that makes life worth its living and death worth while the dying. But *cathanasia* is forbidden and he must bear, together with the sufferer, part of that burden, giving to him freely of his sympathy, fortifying his moral

character, that burdens seemingly too hard to bear may be lifted and lightened.

How wonderful! How marvelous! is that process of conception, wherein a human life is to spring into existence. What is Life? What is Death? What does Death mean? Where do we go? Where is hell and where is heaven? These are problems that occupy many minds, in many ways and indeed we really do not know what is life and what is death, but we speak of them only in known phenomena. Life is the activity of phenomena; death is their cessation. But a definition of this kind is so unsatisfactory that one hardly cares to waste the time to consider it.

“To every man upon this earth
Death cometh soon or late,
And how can man die better
Than facing fearful odds
For the ashes of his Fathers
And the temples of his Gods.”

—Macauley, Lays of Ancient Rome.

Have we from the finite, the materialistic standpoint ever really learned one single, solitary, definite thing or idea about heaven or hell? Religion does not tell definitely concerning these things nor has one traveler come back from that bourne to tell us of its horrors or its beauties, but we are bouyed up and sustained in life by the belief that such states or places exist. Man has tried to pass beyond the border line of life, to delve into the unknown regions where death has held sway and has passed judgment oftentimes on vague proofs, derived from super-normal (?) manifestations supposed to be found in telepathy, hypnotic sleep, phantasms and other phenomena produced by mediums.

Maeterlinck seems to think that it is a well established fact that a spiritual or nervous shape, an image, a belated reflection of life, is capable of subsisting for sometime, or releasing itself from the body or surviving it, of traversing enormous distances in the twinkling of an eye, of manifesting itself to the living and sometimes of communicating with them. The appearance of these apparitions is very brief and they are said to take place only at the precise moment of death, or very shortly thereafter. It might be here observed that instead of possessing a greater power, a greater spirituality, after the soul has become rid of the effete material of the body it seems inferior than when matter surrounded it, even tormented with trivial cares.

Do these spirits fret over their former corporeal existence, do they live around us without man perceiving them, despite their endeavors to make themselves known or to give us an idea of their presence? Or is the fault our own, in that we have no special organ of

vision by which we would be able to see them in their spiritual body?

Unfortunately, we are in the position of being materialistic and cannot but believe that these spirits and the spirit phenomena that have been observed are capable of another interpretation.

"Strange—is it not?—that of the myriads who

Before us passed the door of Darkness through,

Not one returns to tell us of the road,
Which to discover we must travel too."

—Omar Khayyan-Rubaiyat.

Many believe in these strange and unparalleled occurrences which they are pleased to call "facts" and which they believe to come indisputably from the other world. They base their "facts" upon a faith that they have in a medium, who they believe possesses extraordinary powers of looking into the future, a power of distant perception, a subliminal clairvoyance. But in the past these mediums have many times practiced deception. Insofar as we can view this matter, we cannot agree with the distinguished Belgian author, for the proof must be more decisive and we must have better witnesses than mediums, for we are greatly inclined to believe that

"The Gods conceal from men the happiness of death that they may endure Life."—*Lucan*.

and that while

"Death is the Golden Key that opens the palace of Eternity."—*Milton*.

still the only safe course that one can pursue, is to eliminate every living link.

We have no definite information of the future, nor do we know really what the soul is. To my mind, viewed from the medical and practical side, the *soul*, or better the "soul-life" of the individual, represents all those higher yearnings, those ideal and altruistic longings, that actuate and perpetuate the very best there is within us, whether this be brought about through general or special religious beliefs. We have all felt at times, like the melancholy Dane,

"I do not set my life at a pin's fee;

And, for my soul, what can it do to that,

Being a thing immortal as itself?"

—Hamlet, Act I, Scene IV.

Do the newly dead have to grapple with a fresh problem, with a new mode of existence, have to re-orient themselves as do we with a new life before they can adapt their souls and spiritual bodies to their new life, to their new reality? This would not at all harmonize with the Christian's idea of a re-birth, a springing from a terrestrial life, full armed,

cap-a-pie like Minerva, in the shape and into the presence of his Maker.

I believe that the thoughtful man would much rather know that he knows nothing than to feed himself upon the husks of an illusory and irreconcilable assertion. "I do not ask that they shall reveal to me the secret of the universe, for I do not believe, like a child, that this secret can be expressed in three words, or that it can enter my brain without bursting it * * *. For this secret must be as infinite, as unfathomable, as inexistent as the universe itself. * * *. I do not doubt that the facts reported are genuine and true; but what is even much more certain is that the dead, if they survive, have not a great deal to teach us, whether because at the moment, when they can speak to us, they have nothing to tell us, or because at the moment when they might have something to reveal to us they are no longer able to do so, but withdraw forever and lose sight of us in the immensity which they are exploiting."

But how will you explain these things? Is it unconscious reminiscence; if you will, suggestion at a distance, subliminal reading; an attempt to drag, by main force into the riddle, which seen from our side of the grave, is dark and impassioned enough as it is. What say the spiritualists? "If you refuse to admit the agency of spirits, the majority of these phenomena are absolutely inexplicable." Agreed, nor do we demand to explain them, for hardly anything is to be completely explained upon this earth. A large amount of interest is manifested in this phenomena because of curiosity and in many instances these manifestations are no more marvelous than some of those scientific *facts* which we have learned to use in our daily life without marveling at. Are these spiritualistic facts any more interesting, any more wonderful than our memory, our intellection, our imagination, our emotion, or some of the physical phenomena of chemistry or electricity. They interest us greatly by an appeal to our imagination.

What do the dead remember of the *old life*? Is memory's tablet blank or can they see and know the old world? With all the power of science and scientific investigation, this belief remains with many and has not radically confounded the idea which we are wont to form of death. To my mind Swift has truly said:

"It is impossible that anything so natural, so necessary and so universal as death, should ever have been designed by Providence as an evil to mankind."

They would at best prove, if we were bound to admit to them, that a reflection of ourselves,

an after vibration of the nerves, a bundle of emotion, a spiritual silhouette, a grotesque and forlorn image, or, more correctly, a sort of truncated and uprooted memory, can, after our death, linger and float in a space where nothing remains to feed it, where it gradually becomes wan and lifeless, but where a special fluid, emanating from an exceptional medium, succeeds at moments in galvanizing it. What brings into activity again the memories and the interests that the departed soul possessed in its terrestrial existence? The boldest bridge that men have ever attempted to build across the dark river of death has hardly been started, a single pier has hardly been built and it will take centuries of untiring and thankless efforts, of barren uncertainties behind them before we can hope for results and in the meantime, in joy and gladness, by the will of God and by their own hand many will depart.

“One more unfortunate
Weary of breath,
Rashly importunate,
Gone to her death.”

—Hood, Bridge of Sighs.

We wish to put ourselves unqualifiedly on record and we believe that thinking and scientific men will agree with us, that most, we would like to say *all*, mediums are, by the very nature of their occupation, by the very nature of their faculties, not only inclined to imposture, but their work is, as a rule, premeditated and rank trickery; “moreover it would be requisite for the mediums, who are generally people of merely average intelligence, suddenly to become great poets, in order thus to create, down to every detail, a series of characters differing entirely one from the other, in which everything, gestures, voice, temper, mind, thoughts feeling—is in keeping and ever ready to reply in harmony with their inmost nature to the most unexpected questions.” Ask yourself, gentle reader, how many *mediums* reach the high water level of the foregoing quotation?

On the contrary, we believe that this is largely brought about by unconscious suggestion, either when the subject was in a hypnoidal or hypnotic state, and in which the medium is extremely sensitive to impressions and suggestions, both auto and hetero. Maeterlinck says suggestively “Lastly to provide for every contingency before letting death come upon the boards, it would be necessary to make certain that atavistic memory does not play an unforeseen part. We carry hidden in our being all the past, all the experiences of our ancestors. If by some magic we could illumine the prodigious treasures of the subconscious memory, why should we not discover the events and facts that form the

source of that experience?” In conclusion let us ask ourselves; what have we of *finite, definite, materialistic, human, demonstrable proof? Nothing*. Spirits tell us nothing because they know nothing, and as we have said before, we would much prefer to accept nothing than to delude ourselves by a false belief that alas! too many are considering or actually expecting.

“So fades a summer eloud away;
So sinks the gale when storms are o’er;
So gently shuts the eye of day;
So dies a wave along the shore.”

—Mrs. Barbour, “The Death of the Virtuous.”

CURRAN POPE.

ORIGINAL ARTICLES

FUNCTIONAL AFFECTIONS OF THE HEART.*

By C. B. JOHNSON, Earlington.

In the short time allowed this very important subject, “Functional Diseases of the Heart,” it is impossible to do much more than merely touch on some of the diseases. It will, therefore, be my object to endeavor to say something that will be at least worth while and worthy of lively discussion.

There is one class of cases I desire to mention at this point and that is those patients who come to the physician complain and insist that they have heart disease when, as a matter of fact, you can not by the most careful examination find any organic or functional trouble. These will have to be placed under the head of hypochondriacs.

Then there is another class of functional disorders due probably to a reflex action, or from a general disturbance from some disease located elsewhere in the body. This class naturally disappears when the disturbing cause is cured.

The class that I will call your attention to is the one which apparently originates somewhere in the cardiac nervo-muscular machinery.

Anatomical disease of the heart may precede a functional disturbance but, on the other hand, a functional disease of the heart may terminate in an anatomical disease.

Doubtless all of you have had patients with organic heart disease when without any apparent cause you are called and find that they have a functional trouble complicating the disease, especially is this the case in overstrung, irritable or depressed people.

We find that those who are most liable to

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heart disease are those, who in early life have had neurasthenia or hysteria, or who by their mode of life have subjected the neuro-vascular system to many repeated insults.

In the class of functional diseases will place the following: Those due to certain changes in the blood as is the case in chlorosis, pernicious anaemia or Graves' disease, neurasthenia, tobacco or tea and coffee poisoning, certain gouty, rheumatic or dyspeptic conditions, simple intermittence, palpitation, arrhythmia, paroxysmal, tachycardia, pseudo-angina, angina-pectoris, bradycardia, Stokes'-Adams syndrome.

For us to get a proper understanding of these various diseases we should carefully consider the anatomy and physiology of the circulatory apparatus but will not at this time do so, because it could not be done in the short time allowed me, but would like to call your attention to that portion of the auriculo-ventricular bridge known as the bundle of His. This bundle of muscular fibres, etc., is traced from a point about 10 m.m. beneath the posterior cusp of the aortic valve and continues in a sharp curve over the upper border of the muscular septum between the ventricles and terminates in the muscle of the right auricle and muscular structures in the auriculo-ventricular valve. It is now firmly established that disease or division of the bundle of His is the cause of Stokes-Adams syndrome, or, heart block, as it is sometimes called.

I will only mention the functional diseases of the heart which are found in gout, dyspepsia, chlorosis, anemia, pernicious anemia and Graves' disease, except to say that the tachycardia is not only prominent but one of the most constant signs in the last disease mentioned. It is my purpose to consider more in detail two classes of these functional troubles viz: angina-pectoris and Stokes-Adams syndrome, but feel as if a paper on this important subject would hardly be complete without saying, at least, something about the other troubles so trust you will overlook the fact that none of them are gone into as fully as they should be.

First, let us consider those due to tobacco, tea and coffee poisoning, merely to say that they cause an irregularity and that their effect must be gotten rid of by at least six weeks' abstinence before a positive diagnosis of the cause of a functional disease can be arrived at. This of itself will frequently do away with all symptoms of functional trouble, and if so, the person will exercise excellent judgment in never returning to the habit.

Those troubles that are associated with gouty, rheumatic or dyspeptic diseases should be considered as merely complications of the

original malady and will be benefitted by the use of remedies designed to cure the underlying malady.

Those due to, or complicating chlorosis and pernicious anemia, as well as the other anemias, sometimes should be considered as merely secondary to them and will not be discussed now. We might almost claim that these are merely the causes of functional diseases and to these we will add Graves' disease and neurasthenia. Among the other causes of functional disease we should place these: female sex, diseases of the uterus, menstrual disorders, menstrual period, puberty, menopause, prolonged lactation, following acute or chronic diseases as typhoid fever, erysipelas and rheumatism. The crises of cerebral or spinal diseases, lesions at the base of the brain, neuritis of the pneumogastric nerve, organic nervous disease, melancholia, neurasthenia, mental emotion of some kind as fright, joy, sorrow, expectation and anxiety, petit mal, hysteria, chronic myocarditis, fibroid and fatty heart, valvular disease, hypertrophy, cardiac dilatation, heart strain, atheroma of coronary arteries and aorta, diseases of the stomach including indigestion, dyspepsia, and chronic gastritis, absorption of toxins from the intestinal canal, lead poisoning, tea, coffee, tobacco, alcohol and digitalis, over-exertion, excitement, sexual excesses, masturbation anemia, sleeplessness, uremia, gout and pyrexia.

The intermitten heart seems to be especially common in gouty families and when it appears in persons advanced in years it is an indication that the strength of the heart and of the heart muscle is beginning to fail. This trouble is frequently caused by the excessive use of tobacco and can be found in digitalis poisoning. It is probably produced by the cardiac diastole being prolonged at each beat to such an extent as to occupy the time usually allotted to two pulsations, the pulse will simply be very slow but quite regular. If the diastole of each alternate pulsation be prolonged we get the pulse consisting of two pulsations succeeded by a prolonged interval and so on; according to the diastole that is prolonged we get the intermittence at the 3rd, 4th, 5th, 6th beat, etc. When the intermittency comes on in the course of a severe illness, as typhoid fever, it is a much more serious character and makes the prognosis grave. It is also caused by the same things that produce palpitation, paroxysmal tachycardia and paroxysmal bradycardia.

In functional palpitation the patient becomes unpleasantly aware of his heart by feeling it throbbing. In some cases these sensations are not accompanied by any change in

apex or heart beat and the pulse appears to be normal. In more severe cases the impulse of the heart's action against the ribs is both forcible and hammering while the pulse may be slower or accelerated.

The causes of palpitation have already been mentioned but will call your attention especially to the fact that the tendency to palpitation becomes much greater when the patient has been weakened by debilitated conditions, either mental or physical. Also that irritation of the vagus and vaso-motor nerves, whether central or peripheral, may cause palpitation also reflex irritation of the cardiac nerves as by the distension of the stomach by too much food or gas, and by the presence of indigestible or irritating articles of food, by worms, scybalous masses, gall stones or grit, renal colic or calculi of floating kidney.

One cause which must not be forgotten is the diminished blood pressure which is sometimes caused by Turkish bath or warm foot or general bath or by the removal of fluid in ascites.

Palpitation of the heart is one of the most prominent symptoms in Graves' disease.

Then there is the toxic palpitation which sometimes occurs in gout, rheumatism, constipation, indigestion and more especially the absorption of toxins. From tea, coffee, tobacco and alcohol and even position will sometimes cause palpitation. The symptoms of palpitation come on suddenly with precordial pain or oppression with rapid tumultuous beating, the impulse being visible through the clothing, accompanied by dyspnea, anxiety and a sense of fullness in the throat or choking, the patient being unable to lie down; vertigo, flashes of light and faintness; the face may be pale or flushed and the pulse feeble or strong while the patient believes she is about to die.

Cardiac arrhythmia is a lack of rhythm or an irregularity in the cardiac pulsation. The physician sometimes has great difficulty in explaining the cause and significance of some cases of cardiac arrhythmia because it is a conspicuous sign when there is any irritation of thoracic, abdominal and hypogastric sympathetic chain or the direct nerve supply of the heart or even disease of that organ itself.

G. W. Norris makes five classes of arrhythmia as follows: Juvenile arrhythmia, extrasystole, perpetual arrhythmia, pulsus alternans and heart block. While L. Bard makes a clinical classification which has its advantages in that it indicates to some extent modification of the irregularities according to their dependence on or modification by the condition of other organs.

The progress is more serious when it is of muscular origin than it is when due to nerv-

ous causes. Also the time as when it occurs during convalescence from infections it is of very little importance. If it should occur during the course of the disease it is often of great importance.

Next we will consider tachycardia or paroxysmal tachycardia, or paroxysmal rapid heart, quick heart and rapid heart as it is called by different authors, while others make a difference between tachycardia and paroxysmal tachycardia.

This term is used to describe a train of symptoms which are unassociated with known anatomical lesions or reflex mechanism and is by common consent applied to all heart rates over 120. The heart rate in this trouble is very much faster than that in exophthalmic goitre and infectious diseases as it frequently attains a rapidity of 300 beats to the minute. The causes are not so very different from those already given so will consider the symptomatology. The first intimation of an attack is the flop or tripping of the heart, as it is called. There is a throb of the heart and a sense of fullness in the vessels of the neck. Other attacks begin instantly without any flop. The termination of an attack is as prompt as the beginning. The rapid rate may stop instantly followed by a long pause, then a full, strong impulse is felt over the heart accompanied by a sense of glow over the entire body. The patient as a rule prefers the horizontal position. There is a sense of constriction in the epigastrium, the face may be livid or pale, cyanotic, the jugular veins may be or may not be distended. The pupils have been known to be dilated, contracted and unequal in different cases and even to vary during a single attack, a rapid increase in the number of beats while the pulse is small, weak, easily compressed and often irregular with carotid pulsation. The respiration is slightly increased, rarely is there dyspnea. The expression is anxious and denotes suffering. There may be a systolic murmur but more usually the heart sounds are clearly defined. The signs of stasis do not appear unless the attack lasts considerable time and then there is danger of thrombi. The heart usually is exceptionally small during an attack and as a result the ventricle empties itself with each beat. In some cases the heart is abnormally movable, changing with the position of the patient. In almost every case the pulsation during an attack is double the number found immediately afterward.

The prognosis is good as far as life is concerned, but not so favorable in regard to the relief of the condition when the disease occurs as a pure neurosis or as the result of

some cause that permits of easy removal. When tachycardia develops in those suffering from chronic myocarditis or atheroma of the vessels it is liable to suddenly terminate in death.

The treatment of simple intermittency, palpitation, arrhythmia and tachycardia are very much the same and consist, first, in the removal of the exciting cause. When this is done you may reasonably hope for a cessation of the symptoms. For example, when indigestion, anemia, chlorosis, the use of tea, coffee, or some reflex trouble is responsible, then when these are sought out and cured then the heart disease will also disappear. During the attacks the best thing to do is to keep the patient absolutely quiet and in the recumbent position, while aromatic spirits of ammonia or Hoffman's anodyne should be given and a belladonna plaster or ice cap is applied over the precordium. If these do not afford relief then small, frequently repeated doses of digitalis combined with the bromides or the use of aconite and veratrum viride may prove of benefit. In the interval between the attacks it is sometimes of considerable benefit to give trional or drugs of this class and give various tonics. Probably as good results can be obtained from the employment of elixir iron, quinin and strychnine as any other remedy. Out-door life, exercise, walking, driving, cycling and mountain climbing all help to improve the general health and strengthen the heart. Cold bathing at the sea-shore or at home also helps to improve the general health. During the paroxysms in tachycardia the position frequently does good, the object being to elevate the vascular pressure. One patient will assume a squatting posture with the head between the knees, others will throw themselves down on the bed in such a position that they can bring all the muscles into urgent contraction. Each patient usually discovers the position for himself that will do the most good. Inhalation of two per cent. carbon dioxide will sometimes prove of benefit. Compression of the splanchnic area so as to force the blood into the heart causes it to beat slower. In most cases all that can be done is to rectify, nourish and invigorate the system as far as possible.

Pseudo-angina is an unsatisfactory term used to describe attacks of cardiac pain unassociated with pathological lesions of the myocardium, aorta or coronary arteries. There are several possible sources for the pains of angina and one of them is spasm of the coronary arteries. In this form of angina we frequently find all the characteristics of true angina while years later these same patients are able to perform severe physical labor

without any discomfort and are apparently well. It is quite possible that this form of angina is to be found associated with the cramps in swimmers.

The diagnosis is merely to differentiate between it and true angina and to do this it is necessary to elicit objective signs of disease of the aorta, myocardium, heart valves or the arteries. The pseudo-angina gives a sensation of fullness and pressure in the cardiac region. In this form of angina the patient may be capable of severe physical exercise in the intervals between attacks while in true angina there is a direct dependence between exercise and the attack.

True angina is most common in those past middle life and in men. Pseudo-angina at every age from six years up and most usually found in women. In true angina the attack is rarely nocturnal or periodical and is not associated with other symptoms, while pseudo-angina is often periodical and nocturnal and is associated with nervous symptoms. In true angina the pain is of short duration, agonizing in character, accompanied by a sense of constriction while the pain in pseudo-angina lasts one or two hours, is not so severe and there is a sense of distention more than constriction. True angina is usually a lesion of arterial sclerosis with a very good prognosis, while pseudo-angina is usually neuralgic in character and never terminates fatally.

True angina by some authorities is not considered as a functional trouble at all while by the majority it is so considered. By some it is called sterno-cardia, breast pang and neuralgia of the heart. Some of the causes are syphilis, gout, kidney disease, hysteria, over-exertion, mental emotions, habitual use of tobacco, pressure of an adjacent tumor, hypertrophy or dilatation of the heart, diseased condition of the aortic valve and myocardium and any condition where there is an increase in arterial tension. While the direct cause is an impairment of the blood irrigation of the myocardium which can arise in several ways. First, isolated disease of the coronary arteries unassociated with any affection of the aorta, aortic valve or systemic arteries.

Second, disease of the coronary arteries associated with systemic arterial disease.

Third, partial or complete occlusion of the lumen of the coronary arteries at their origin on account of the disease of the aortic valves or disease of the root of the aorta.

Fourth, vascular crises in the coronary arterial distribution due to vaso-motor influence which are not associated with anatomical lesions of the arteries.

The symptoms are: The pulse may be natural, but at times is unnaturally small, fre-

quent and sometimes irregular; there is usually extreme pallor or ashen gray color and an agony of expression which is not to be forgotten and often there are huge beads of perspiration. Frequently there is a numbness or tingling in the fingers or over the cardiac region. Shortness of breath and precordial oppression are present. The chest is fixed and the heart's action is weak and feeble. The chief symptom, however, is pain in the region of the heart. The lower end of sternum is the usual sight of the most intense pain but it may be to the left of the sternum in the precordial area. It usually extends up into the neck over the distribution of the third cervical segment and down into the arm following the distribution of the eighth cervical, first, second and third dorsal segments. There is always a sense of impending dissolution accompanying the precordial oppression. The attacks are always paroxysmal in character and last from a few seconds to half an hour. Inside of that time the attack has terminated either in relief of the symptoms or death.

The diagnosis has to be made between it and pseudo-angina and the main points of difference have already been mentioned.

In treating angina-pectoris, the first and most important thing to do is to attempt to relieve the attack. Chloroform may sometimes be used to an advantage. Morphine combined with atropine given hypodermatically is the very best remedy for the severe pain. At the same time using counter-irritation to the precordium in the form of mustard plaster or fly-blister. The patient frequently gets as much relief from the inhalation of nitrite of amyl as anything else. A patient who has had one attack should always carry a few pears of nitrite of amyl around with them to be used at the first sign of an attack. The inhalation of chloroform sometimes acts nicely. The use of nitroglycerine is good not only during an attack but in the interval when given every four hours proves of great benefit. When the trouble is associated with gout or syphilis appropriate remedies for these disease should be given. The increasing dose of potassium iodide is of great advantage even when there is no history of syphilis. The bromides are also useful and when they are to be given continuously for some time the bromide of strontium is the best. Arsenic and the nitrites, specially of sodium and silver, sometimes do good. Hot baths are not good and any exercise must be taken with great caution because any over-exertion is liable to bring on an attack. Even climbing of a very small hill may bring on an attack. When the attacks are frequent it is necessary to keep the patient in bed and the diet must

be carefully attended to, being careful to avoid any indigestible food. The mind must be kept at rest as much as possible as well as the body. Never allow the patient to get excited or into a passion if it can be avoided. It is hardly necessary to say that the excretory organs should be kept in good condition. The use of digitalis is contraindicated.

Bradycardia is always a symptom of Stokes-Adams syndrome, but should be treated as a separate disease. Any heart beat below 40 is to be classed as a bradycardia while sometimes it is reduced to seven or eight in a minute. It is found in a number of different conditions and classed by Riegel as follows:

First, when found in convalescence from acute fevers such as typhoid, pneumonia, diphtheria, acute rheumatism, etc.

Second, in diseases of the digestive apparatus, especially dyspepsia, but also in cancer and ulcer of the stomach.

Third, in some diseases of the circulatory system. More frequently those involving the muscular structure of the heart, and associated with deficient nutritive supply or obstruction of the coronary artery.

Fourth, in nephritis.

Fifth, from the action of toxic agents including uraemic poisoning, lead, tea, coffee, alcohol and digitalis.

Sixth, certain diseases of the nervous system, including apoplexy, epilepsy, brain tumors, especially those involving the medulla and cervical cord.

Seventh, in affections of the skin and sexual organs.

Eighth, finally, rarely in diseases of the respiratory system.

The symptoms are the slow, weak, small pulse. As a result of this slowness there are noises in the ear, vertigo, dizziness and rarely convulsions. While the first sound of the heart is soft and feeble the second sound is often inaudible. As this condition of bradycardia is always present in Stokes-Adams syndrome, we will now leave any further consideration of it except a few words about the treatment. In this, so far as the improvement of the systemic conditions are concerned there is very little material difference from those employed in the functional diseases already described.

As long as the pulsations do not become so slow as to fail to supply the necessary amount of blood to the system, the best thing to do is not to give any medication but endeavor by position and forced respiration by various means to whip up the lagging heart. If this does not have the desired effect, then we have to resort to the administration of the various heart stimulants either by mouth or hypodermatically always remembering that digi-

talismans and remedies acting as it does must be avoided. While atropine, aromatic spirits of ammonia, nitroglycerin, alcohol, caffeine citrate, mono-bromide of camphor, the various valerianates, amyl nitrite in the form of pearls and eactus may all be used to advantage. Sometimes morphine and drugs acting similar to trional and veronal produce good results.

Stokes-Adams syndrome, or heart block by some authors called, is put down as a disease while others claim it is merely a group of symptoms and not a definite pathological process.

However, it seems to be caused by disturbance in the bundle of His, which has already been described. The vagus may under some circumstances influence the conductivity of this bundle. In heart block the ventricular contraction may fail to follow one or more auricular contractions which leads to a slow, intermittent pulse. There may even be four auricular contractions to one ventricular and this fact can easily be determined by counting the pulsations in the external jugular vein. This can easily be done when the tricuspid valve is sound as the veins of the neck are then distended and the auricular pulsation can be distinguished. The real thing to determine between this trouble and bradycardia is whether the involvement in the rhythm involves both the auricle and ventricle or only the ventricle as is the case in heart block.

Some authorities claim that the entire symptoms may arise from irritation of the vagus trunk. The trouble usually occurs in patients who are past middle life and who have arterial-sclerosis. There is always bradycardia and arrhythmia present. The heart beats are commonly about forty but have been known to drop down to two and some cases are on record where there was no ventricular beats for over a minute. There are more auricular beats than ventricular bearing the relation of two to one, three to one and four to one in different cases. There is extreme weakness and the patient is unable to perform any manual labor. Sometimes there is decided dyspnea following exertion, persistent or more commonly paroxysmal. Fainting, convulsions and slumber apnea.

The cerebral symptoms are always present and vary very greatly in character, according to the part of the brain involved and may be merely syncope, epileptic or apoplectic in character with stertorous breathing or even Cheyne-Stokes respiration. The prognosis is always grave, though a prognosis for a short duration of life is not invariably justified.

The treatment consists in first trying to correct the underlying cause as rheumatism, syphilis, arterial-sclerosis and brain affections.

When the attack is on the object is to correct the brain anemia by lowering the head or even inverting the body. One patient prevented his attacks by getting down on his hands and knees and allowing his head to hang down. During the paroxysm the cardiac stimulants as ammonia and nitrates are useful and sometimes atropine does good when given hypodermatically. Rest, diet, tonics, regulation of exercise as well as the excretions, never forgetting the importance of syphilis and the employment of the iodides when it is even suspected.

FRACTURES AND RADIOGRAPHY.*

By R. C. FALCONER, Lexington.

CASE I.—FRACTURE OF STYLOID PROCESS.

The subject of this injury, a young man about 30 years of age, was thrown from a motorcycle, striking his hand outstretched



against the ground. He was first seen by Dr. R. L. Carrick, who referred him to me. The wrist presented the usual appearance of an ordinary sprain, moderate degree of swelling and no deformity. He complained, however, of acute pain at carpal end of ulna, intensified by pressure at this point, also on motion of joint. X-ray examination showed displaced fracture of styloid process. Joint splinted.

*Read before the Fayette County Medical Society.

Inspection, passive motion and redressing every three days, duration of treatment one month, no resulting deformity or disability.

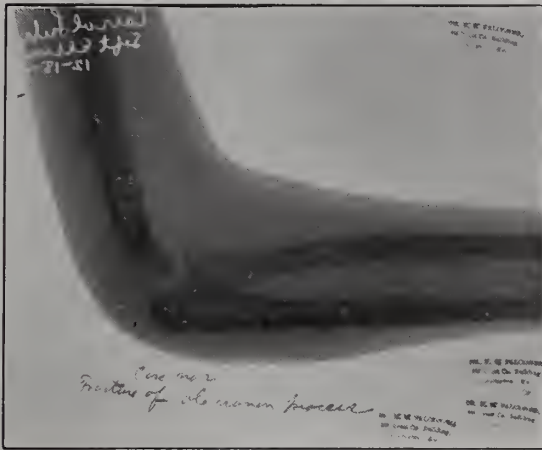
CASE II.—DISLOCATION OF RADIUS AT ELBOW ASSOCIATED WITH FRACTURE OF THE OLECRANON PROCESS.

The subject of this injury, a boy nine years old, while romping fell on his elbow. Exam-

ance of a sprain. Moderate swelling, no deformity, function slightly impaired. However acute, localized pain at carpal end of radius prompted me to suspect something more than an ordinary sprain. X-ray examination showed a simple fracture of radius at suspected point, without any crepitus or displacement. Wrist joint was splintered for the usual time, followed by complete recovery. It might not be out of place to state that as a rule the radial epiphysis is united to the shaft about the twentieth year, but according to some modern observers aided by radiography, it unites several years earlier.

REMARKS.

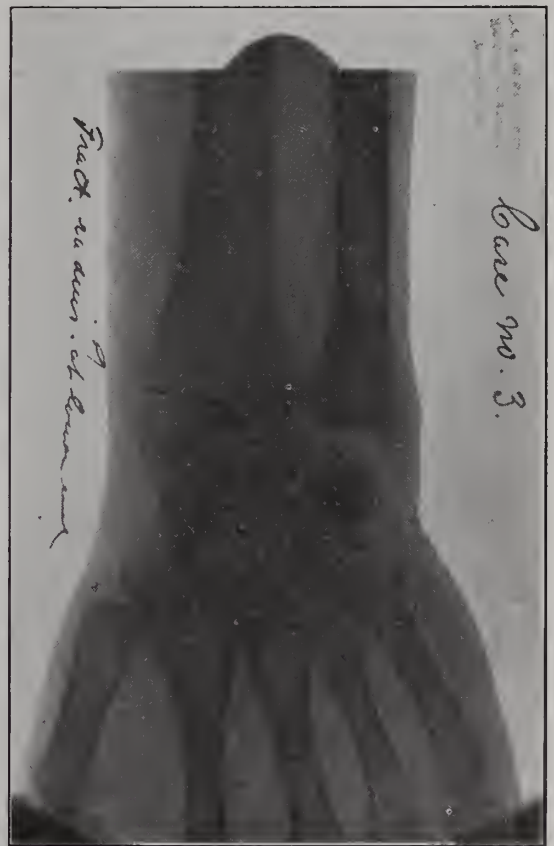
The cases just reported serve to demonstrate the necessity and advantages of radiography. I am sure we all wonder how fractures, especially those of joints were ever treated without this aid to diagnosis. The character of injury, method of treatment, accuracy of adjustment are all materially influenced and determined thereby. The diagnosis



ination shortly afterward showed marked deformity of elbow joint due to backward dislocation of radius. Under anaesthesia the dislocation was at once reduced and the elbow placed in splints at right angle position. Next day the swelling was considerable, extension and flexion markedly impaired. Further more on palpating over the olecranon, there was a pronounced flatness where the point of the bone should be normally felt. X-ray examination disclosed fracture of olecranon tip, which is shown in the radiogram, chipped off and interposed between the articular surfaces of the humerus and ulna. (Compare injured with normal elbow of same subject). The right angle position was maintained throughout the period of treatment. On the seventh day, however, after receipt of injury the patient was anaesthetized the arm was extended and flexed, then redressed in right angle position. Inspection and movements of extension and flexion were practiced every three or four days. The case resulted in complete recovery, without any impairment of function or restriction of motion.

CASE III.—FRACTURE OF CARPAL END OF RADIUS.

The subject of this fracture was a male adult about forty-five years of age. Injury caused by cranking automobile. Wrist presented nothing more than the usual appear-



of any cases of apparent sprain or contusion associated with one or more definite bone lesions is cleared up by the Roentgen rays. In regard to the case of fractured styloid process

of ulna, this injury is associated with Colles' fracture in about fifty per cent. of the latter. In the treatment of fractured styloid process the bone usually takes care of itself when the wrist joint is splinted. and if the wrist is so treated it can be liberated in about three weeks with a good result. Referring to the case of dislocated radius associated with fracture of the olecranon, in a former case of this kind, that is fracture of olecranon, the fragment failed to unite, caused suppuration in the joint, and had to be removed, followed by a good functional result. As to the position of the arm in fracture of the olecranon if the degree of separation is slight I think the right angle position is desirable; if the separation is marked and inch or more, the arm should be dressed in position of extension, and so maintained by long splints, preferably made of plaster of Paris in such a way that they can be removed whenever necessary, for inspection and massage. In the event of wide separation with impossible reduction treatment by open method would be necessary.

Whether the arm is dressed extended or at right angle it should be gently, under anaesthesia, flexed or extended, as the ease may be, a week after receipt of injury, and then passive movements continued until it is safe to liberate the arm and substitute active movements. This treatment is calculated to prevent ligamentous or fibroid ankylosis.

REVIEW OF THE BULLETIN OF THE STATE BOARD OF HEALTH OF KENTUCKY, BIENNIAL RE- PORT, 1910-1911.*

By BEN CARLOS FRAZIER, Louisville.

The recognition of the practical use of vital statistics is general throughout. Kentucky is one of the first states to adopt a model law. The registration of deaths and births is as complete as most states. I take for granted the death registration is more complete than birth registration, as in the larger cities and especially in Louisville there are a good many babies born without either a doctor or midwife being present, hence no report. No doubt this is true in some of the rural districts also.

The report of the State Board of Health was a revelation to me and has been a constant source of pleasure and instruction since I began to observe it closely, which was, I am sorry to say, quite some time after I received the copy. It is of necessity incomplete even to where it ceases, but I am going to quote some figures from the State Registration of Vital Statistics that will bring some of the records almost up to the present time.

Before making any statistical returns, I

want to tell all of you that have not studied the volume, I am attempting to review, namely, Bulletin of the State Board of Health of Kentucky Biennial Report, 1910-1911, and do not attempt to cover all the points of interest but can only bring out a few points and hope to have a discussion that can be as general as you like. This volume will pretty generally inform you about members and officers and the various boards; and what is very important to many doctors, health laws and rules and regulations and court decisions. This day of frequent malpractice suits it may behoove us to keep in touch with the court findings and discussions for we can never tell but we may be next, and have such proceedings brought against us. I am glad to say, and I think I am stating facts, that there have been no decisions against the doctors in recent suits brought in our courts. You all probably are as well acquainted with them as I.

The amended law has made a School for Health Officers. I was not fortunate enough to be able to attend the recent meeting here for this purpose, but I am sure there will come good of one hundred fold from the instructions given. It was needed. You can but be struck by the great difference in the reports of the various Health Officers. Very few of them had received any training, in such work, consequently they were deficient both in observing and reporting what came before them, not only that but many were doing this at a great personal sacrifice, giving their time and labor without any compensation at all and those who received anything at all received little indeed. When there can be health officers qualified and paid for the work done, then we will have a death return small indeed compared to what it is now. The doctor is always interfering with his means of living by helping others to live better and longer, but what could be more commendable. Not one of you who is doing his duty, but sacrifices himself for someone each day. We are truly our brother's keeper. If we are let us do our duty well. If the health officer be equipped he can soon overcome many prejudices and objections that he will meet in people of his community that should help him, who will now put a stone in his way because they are not educated or else are so prejudiced as to be unable to see the good in reform when it interferes with their time-honored custom.

I have dwelt somewhat on the health officer but I want to commend the report in its entirety and this seems to be the most important. The health officer makes the report. The prevention of disease now is the cry. Teaching prophylaxis is now the feature of the day, not to get sick. How to keep well

*Read before the Jefferson County Medical Society.

should be bought, rather than paying for recovery. If you can only make the people understand, and that is a hard proposition, that the health officers are devoting time, energy and the best knowledge to keep the community in good general health, to prevent the spread of disease, when there is an occasional outbreak, to advise about sanitary situations, both in private and municipal conditions, you will have done a great deal in leading up to the millenium. A clean healthy body can more easily contain a clean healthy soul it seems to me.

When you look through the whole number of counties of the state and see tuberculosis as the leading cause of death in all but six we certainly should feel like renewing our zeal to keep up the anti-tuberculosis fight which has been well started in a great many counties. Carlisle had two more deaths from pneumonia and bronchopneumonia than tuberculosis; Leslie had 3 deaths from tuberculosis, 11 from diphtheria; Letcher had 10 deaths from tuberculosis and 10 from typhoid. Magoffin had 17 from tuberculosis and 17 from diphtheria. Mercer had 31 from tuberculosis and 11 from pneumonia. Perry had 6 from tuberculosis, 9 from diphtheria and 11 from pneumonia.

I take it that where diphtheria was the prevailing cause of death, antitoxin was not available, or else the cases were not recognized early. Typhoid fever only equalled in mortality tuberculosis onee, Letcher county, 17 each.

You all recognize the mortality rate in pneumonia has not changed much in a great many years. There are almost 20,000 affected with tuberculosis in the state and in 1912 there was very close to 16 per cent. of the deaths due to tuberculosis.

I want to openly criticize all doctors who do not tell their patients when they have tuberculosis, to allow a tubercular patient to labor under the idea that he only has bronchitis, when it is tuberculosis it is not only wrong for the patient's sake, but jeopardizes many people who would be protected if the tubercular patient were taught how to care for himself and protect others. The little children are the ones who suffer most from contagious disease and are the least protected. Where the carpets, curtains and other drapery, along with clothing and furniture are not kept free from contagion, children in the house for so long a time are continuously in danger. Especially does this apply to tuberculosis.

The State Board of Health has sent out circulars on prevention of contagious diseases to all the counties and towns in the State. This should do a wonderful lot of good in most communities. No doubt as the health officers now are instructed, they will invite a more

general discussion and encourage meetings of the teachers, ministers and the laity in the various counties where they have jurisdiction.

I was surprised to find that the sparsely settled counties or communities did not have the lowest death rate. Typhoid did not claim any death toll in Nicholas or Menifee counties. Menifee was second place low death rate, tuberculosis making such a claim as to put it second in spite of no typhoid deaths, 609 to 100,000.

Trigg was lower, 562 to 100,000.

Fayette with 2,062 to 100,000 was the highest death rate.

Monroe and Montgomery each with 357 from tuberculosis had rather large typhoid rate, 29 and 23 respectively.

Puerperal septicemia ranked tenth as a cause of death from preventable causes. We should consider this with great seriousness as it reflects on the doctor and nurse.

In looking over the counties, I find the following with more than 2 deaths reported for puerperal septicemia: Boyle 4, Barren 4, Bullitt 3, Fayette 4, Garrard 3, Hardin 7 with a small population. I do not venture an opinion as to such a large death rate with so small a population estimated, 22,667.

Jefferson 13, with estimated population of 266,636. Kenton, 5, Knott 4, Logan 4, Montgomery 3, Owen 3, Pike 3, Rowan 4, Shelby 3.

These babies should not be allowed to die for want of proper feeding any more than they should for housing.

We have not succeeded in getting the laity nor the doctors in the country and small town to take the serious and persistent interest in clean milk that should be taken. I hope the health officers all over the State will give this matter the time and personal attention that is due the babies in their respective counties. Based on the 100,000 population and taking 1911 and 1912 as the basis the births for 1913 should be almost 30. Diarrhea and enteritis in children between one and four years is causing a too heavy death toll.

Let us all help to make the registrar's statistics complete and true by reporting all diseases that are supposed to be, and to report all births and give exact causes of death.

DEATHS FROM PREVENTABLE DISEASES.

Tuberculosis	5,181
Pneumonia, bronchopneumonia	2,530
Diarrhea, enteritis; under 2 years	1,124
Typhoid fever	1,035
Meningitis	630
Diphtheria, croup	545
Influenza (lagrippe)	477
Measles	394
Whooping Cough	394
Puerperal septicemia (child-bed fever)...	161
Scarlet fever	73

We will expect a great deal from health officers, in pellagra, hookworm, in improving the milk supply, and in instructing the laity along with the small milk dealer in the smaller cities and towns of the State. Of the 29,955 deaths in the State in 1912, 5,162 were infants under 1 year; 2,342 were children between 2 and 4. If clean milk were being fed, and intelligently handled the rate should not be so large, as the death rate from scarlet fever, diphtheria and whooping cough is not large.

In a communication given out very recently from the State Registrar of Vital Statistics, it is stated, "There have been 114 from pellagra, mostly white, but a few negroes, Jefferson, Fayette and Christian counties furnishing the most of them, they being inmates of the State hospitals. There have been about a score of deaths reported from hookworm. Both conditions are comparatively new, so far as statistics particularly are concerned.

There are so many questions that could be reviewed with much good to all of us but I cannot cover the whole ground. I hope you will not confine your remarks to what I have presented, but will bring out any other feature of interest that I have not mentioned.

DISCUSSION.

C. G. Forsee: I wish to go on record as being of the same opinion as Dr. Frazier in regard to informing our patients that they have tuberculosis. Recently, in a discussion of this subject in a medical society of which I am a member, I was somewhat surprised to notice that most of those who discussed the subject stated that they hesitated to tell their patients that they have tuberculosis. To my way of thinking, it is a great mistake not to inform an individual that he or she has tuberculosis just as soon as we have established the diagnosis.

J. M. Morris: I would like for Dr. Frazier in closing to give us some idea of the death rate from tuberculosis two or three years ago as compared with that of the past year. It seems to me that, in spite of the educational work that has been done in the past few years, the death rate from tuberculosis is about the same as it has always been.

I would like to indorse what the essayist has said in regard to making it known to our patients that they have tuberculosis. I believe there is no greater mistake being made to-day than that of neglecting to inform these patients of their condition in time for them to benefit by the knowledge; in fact, I think it amounts to almost criminal neglect for a physician to fail to inform these patients of their true condition so that they may at once begin the proper treatment. No longer ago than yesterday, I saw a woman who had been treated for six months without being told the nature of her trouble, nor did her hus-

band know it. Immediately upon establishing the diagnosis, I did what the other physician should have done six months ago—told the family, and they immediately consented for her to go to the sanitarium and be treated. The failure to give her this information early enough for her to have received the full benefit of treatment amounts to criminal neglect, and I think this is true of any physician who wilfully withholds from the patient information as to the true condition until long after the time when proper treatment should have been begun.

J. Rowan Morrison: I wish to congratulate Dr. Frazier upon presenting a paper of this kind. We all need to look into this subject. While facts and figures may not be very interesting, they are oftentimes of great benefit to us.

In regard to the large number of deaths from pneumonia reported from Mercer county, I would like to ask Dr. Frazier whether or not there had been an epidemic of grippe, or something of that kind, in connection with these deaths?

Another condition I wish to speak of is whooping cough. I think the essayist stated that some 300 deaths from whooping cough had been reported. I daresay that, if the sequelae of this condition, such as broncho-pneumonia, and disorders of nutrition had been taken into account in compiling these statistics, the number of deaths would have been much larger. I think whooping cough is a disease to which the authorities should pay more attention than they do. In a most excellent paper read by Dr. John Lovett Morse, of Boston, before the Association of Pediatricians in Washington, last May, he stated that, after going into the subject very thoroughly, and writing to the health authorities of many cities, he had reached the conclusion that the mortality of pertussis was very high, probably greater than that of scarlet fever and measles together, and possibly above that of diphtheria. Whooping cough is a serious disease, to which we have not assigned the importance that we should; we have not been careful in segregating children who have it. I have repeatedly seen children with whooping cough playing around in Central Park with other perfectly healthy children, and some who were not so healthy—with nutritional disorders which would render them particularly susceptible to whooping cough. Therefore, I think we should make every effort to keep these children from associating with other children until some time after they have ceased to whoop, because we know that this disease may be carried by an individual for a considerable length of time after the paroxysms of whooping have ceased. It has been suggested that these children should be required to wear an insignia on the arm, indicating that they have had whooping cough. The health authorities should look into this question; whooping-cough deserves more attention from a public health standpoint than it receives.

F. C. Askenstedt: I should particularly like to hear the subject of tuberculosis discussed in connection with this paper, and to ask whether there has been any decline in the death rate from tuberculosis in this county that can be attributed to the tuberculosis movement?

Dunning S. Wilson: If my memory serves me correctly, the death rate from tuberculosis throughout the State has declined nearly one thousand during the past two years. Last year (1913) in the City of Louisville there were 410 deaths from tuberculosis; in 1912 there were 434; in 1911, nearly 504 and in 1910, 512.

Several things are to be considered in connection with statistics of the death rate from tuberculosis as well as other diseases. In the first place, whenever the question of any particular disease is agitated, there is always a swing of the pendulum upwards; in other words, more cases of that particular disease are noted. For instance, it has taken the medical profession a certain length of time to realize the necessity of being on the lookout for tuberculosis; it has also taken a certain length of time to become proficient in the diagnosis of tuberculosis in the early stages, and it will take a still longer time for them to learn the importance of notifying the health authorities whenever the diagnosis of tuberculosis is made. Therefore, whenever we agitate the question of any particular disease, whether it be tuberculosis, cancer, or what-not, we usually find that here are more cases of that particular disease in existence than we had theretofore imagined.

Another factor that must be considered in connection with mortality statistics is one of personal equation; whether or not the doctor signing the death certificate has the moral courage to state therein what was really the cause of death. We know that many physicians, when some other lesion, such as organic heart disease, kidney disease, or what-not, is co-existent with tuberculosis at the time of death, will assign the former as the cause of death, because they fear that, if they mention tuberculosis, it will prevent the family from collecting insurance on the patient. This is not true. We make the insurance companies pay the face value of policies on individuals who have died of tuberculosis every day. Like the suicide clause, it has been shown to be insufficient to invalidate the policy. Therefore, you are not doing the patient any good by not telling the truth. If death was caused by a chronic nephritis plus pulmonary tuberculosis, put it so. Nevertheless, statistics will vary, depending upon the personal equation of the individual.

Again, sometimes an accurate diagnosis is not made. I have no doubt that many cases of so-called pneumonia are really tuberculosis. Pneumonia does not mean anything. It may be a true pneumococcus infection, or it may be a

grippal, or an influenzal or a tuberculous infection. Pneumonia covers a multitude of false diagnoses. Therefore, I believe that the apparent increase in the mortality from tuberculosis sometimes noted in certain districts is often due to increased diagnostic skill on the part of the medical profession, plus courage on the part of the individual doctor to give the real cause of death.

Next, the increase or decrease in a certain district must be considered in the light of the ratio it bears to the population of that district. For instance, in New York City the death rate from tuberculosis has decreased 20 per cent. in the past twenty years. That does not mean that the actual number of deaths from tuberculosis is not as great, or possibly greater, than twenty years ago; but the population of New York has increased, while the number of deaths per 1000 of population has decreased. Therefore, in Louisville, or any other portion of the State, we must take into consideration not only the actual number of deaths occurring within a certain period, but also the ratio that number bears to the population.

Wherever an active anti-tuberculosis campaign has been waged, tuberculosis is on the wane. Frederick Hoffman, one of the best statisticians in the country, connected with the Prudential Life Insurance Company, in a paper read in Washington last year, showed conclusively that tuberculosis is on the wane throughout the entire country. In Jefferson County this is true more than in any other section of Kentucky, for the reason that it is the only county in Kentucky that has a sanatorium for the care of tuberculous patients. I think the medical profession ought to get behind a movement looking to two things; first, adequate funds for providing beds for advanced cases of tuberculosis; and, second, legislation compelling segregation. This is where the trouble lies. I can recall case after case of tuberculosis that came to the sanatorium, stayed there a few months and got a little better, and then went back to their homes or to cheap boarding houses, and back to work, leaving a trail of infection wherever they went.

Again, there should be some provision made for advanced cases. It is not the early case of tuberculosis that is a menace to the community; it is the advanced case. We must have segregation of these cases; we must be enabled to prevent them from going into a densely populated city and spreading the infection wherever they may go. The County Health Officer and the City Health Officer, in conjunction with the official in charge of tuberculosis work should have authority to say which cases should be segregated and to enforce segregation. This is a most important factor in the fight against tuberculosis.

R. E. Wilhoit: I would like to ask Dr. Frazier if he knows anything about the rules of quarantine in the public schools of Louisville. One of the parents of a child whom I recently treated for

chicken-pox told me the other day that the principal of the school which the child attended had told her that the child could not come back to school for one month. This child's little brother has been going to school right along, and did not stop while the other was ill with chicken-pox.

C. H. Harris: I believe that of all the dangers that surround us in this city, the worst is from those old chronic cases of tuberculosis that have not learned proper methods of living, care of the sputum, and so on. There should be legislation to compel the segregation of these cases, just as we compel vaccination. Small-pox has become almost obsolete as the result of compulsory vaccination, and proper legislation looking to the segregation of tuberculous patients who have reached the stage where they have become a menace to the community would be a great help in the fight against this disease.

I think Dr. Morrison also sounded a timely note of warning when he protested against the running at large of children with whooping-cough. It has been my observation that, of all the infections which occur in young children, whooping cough is most apt to be attended by fatal results. Congestion of the brain is often given as a cause of death when whooping cough is the real underlying cause. I think we should get behind the health authorities in an effort to segregate children with whooping-cough. Mothers have received the impression that it is best for a child to have whooping-cough when it is very young. That is the time it is most apt to be fatal. In a nursing child, a paroxysm lasting from five to fifteen minutes may cause death from exhaustion. However, as we have no specific, we can only let the disease run its course.

S. C. Frankel: I will take the liberty of answering the question asked by Dr. Wilhoyte in regard to the quarantine regulations in the public schools. I am sure that the parent of the child mentioned by the doctor did not correctly understand the principal of the school, and that he did not say that the child must remain home for a month. All of the principals have definite instructions as to the length of time a child must not attend school because of the various contagious disease. In chicken-pox the time is from two to three weeks. The rule is that a child who has had chicken-pox must remain at home until all the scabs have disappeared. The scalp, chest, back and arms are examined, and if any scabs are present the child is excluded from school until they have disappeared. The very earliest a child can return to school after an attack of chicken-pox is ten days, and it varies from that period of three weeks. However, any other member of the family may attend school during the period of illness.

Ben Carlos Frazier, (Closing): It seems that

I have presented a very small paper on a very large subject.

While the subject is in my mind, I would like to say that a great many principals in our public schools do not live up to the quarantine rules mentioned by Dr. Frankel. They are sometimes very arbitrary in their rulings. I am not sure whether or not the principals and teachers in the school have any instructions as to excluding from school a member of a family in which there is a case of tonsillitis, but I do not believe such is the case. Last week I saw a case of tonsillitis in a woman whose daughter was attending school, and as soon as the teacher learned that this girl's mother had tonsillitis, she sent her home and would not allow her to return to school for several days. I was quite busy and did not take up the matter with the authorities, but it was a bad thing for that girl. Here was a girl, thirteen years of age, running around to matinees, and roller-skating, when she would have been much better off at school, and I do not believe there was any justification for her being sent home.

The question of whooping-cough comes pretty close home to me, because both of my children were very sick from it. I think it is a dangerous disease in young children. I remember to have made the remark that I would rather my children had diphtheria than whooping-cough. They have had both, and they were much sicker with whooping-cough than they were with diphtheria. As Dr. Morrison brought out, children under two years old often die from whooping-cough.

Answering Dr. Askenstedt's question as to whether or not there has been a reduction in the death rate from tuberculosis, I will give a few figures that I have at hand: Exclusive of still-birth which are not included in the statistics given out by the Bureau, there were 29,555 deaths in this state in 1912. Of these, 9562 were infants under one year; 2,344, from 1 to 4 years old, and 7,346 were 65 or over. This gives a death rate of 12.9 per 1,000 of population. There was a decrease in the death rate from all preventable diseases except diphtheria and pneumonia; a decrease of 529 in the number of deaths from tuberculosis, and a decrease of 297 in the number of deaths from typhoid fever.

The point brought out by some of the speakers in regard to informing our patients that they have tuberculosis is one that should be emphasized even more strongly. It behooves us to stick together in the fight against tuberculosis, and teach our patients the necessity of proper living so as to protect others from the disease. I was glad to hear Dr. Wilson speak on this subject, as I do not believe there is anything that handicaps us so greatly in the fight against tuberculosis as those doctors who neglect to tell their patients the nature of their trouble, and insist upon their living in such a manner as to protect others.

The figures on infectious and contagious diseases reported during the past month or two are very interesting, because, in November only four cases of whooping-cough were reported, while in October only two were reported. It is evident that many of us have neglected our duty when only four cases of whooping-cough are reported in a month. There are few of us who have not seen that many case in the past four weeks.

ANESTHESIA.*

WITH PARTICULAR REFERENCE TO THE ANOCT-ASSOCIATION METHOD.—ILLUSTRATED BY CHARTS, DRAWINGS, LANTERN SLIDES AND THE CINEMATOGRAPH.

By LOUIS FRANK, Louisville.

The desire to dispel pain is older than the human race, and for thousands of years means were diligently sought by which it might be abolished. The inception of medicine was through surgery in the efforts to overcome the pain and heal the wounds inflicted in personal combat. Men thought of self before they looked for a Divinity, indicating that in the evolution of mankind, long before the thought of religion the ancient and honorable practice of medicine had its seed sown in the necessity of repairing the damage inflicted upon the individual in one way and another.

In the words of Hippocrates "*divinum est opus sedare dolorem.*" As the ancients, long before the days of the venerable Father of Medicine, were acquainted with Indian hemp, the poppy, etc., this reference was undoubtedly to the agony inflicted by the surgeon.

The search for agents which would permit of the painless treatment of wounds and such crude operative procedures as were necessary as a result of either disease or battle, was unsuccessful until the early part of the last century. We find that Velpeaus, two thousand years after Hippocrates, wrote with apparent resignation "*éviter la douleur dans les opérations, est une chimère, qui l'nest pas permise de poursuivre.*" The production of local as well as general anesthesia has been and was attempted by various and divers means, ranging from the "Stone of Memphis" to freezing, from Mandragora of the Iliad to Voltaic narcotism of Richardson."

Most of the efforts at anesthesia had to do with those agents which would act locally, and it was very early suggested that nitrous oxide, much used of late for general anesthesia, could be utilized in this way. However, very little progress was made in the actual application of local anesthesia until the discovery of cocaine in 1880. Since then, with the development of synthetic chemistry, and doubt-

less on account of the frequent alarming manifestations following the use of cocaine, other agents have been introduced, among which may be mentioned eucaïne, tropaeocaine, strovaine, alypin, the orthoform group, and, latterly, the least dangerous, but equally valuable, novocaine. The successful application of these agents had been made possible through the discovery of the hypodermic needle by Wood, though before that time Long had discovered the general anesthetic effect of ether. Morton had demonstrated it in 1846, and Warren and Bigelow had spread the knowledge to the medical world.

The relative merits of chloroform and ether, the two general anesthetics in greatest use, we do not propose to discuss in an extended manner. We do, however, wish to draw attention to a few points showing the greater danger of chloroform over ether. It was for a long time argued that ether was far more dangerous than chloroform, because of its post-operative effects and its action upon the kidneys. A very cursory review of statistics, however, would indicate that the average mortality from chloroform is, at the very least, one in three thousand; that of ether one in ten thousand; and these figures are taken from an average of six hundred and thirty-eight thousand four hundred and sixty-one administrations of chloroform, and three hundred thousand one hundred and fifty-seven administrations of ether. To give exact figures, the deaths from chloroform varied, taking the experience of thirty-six European surgeons, from one in thirty-seven hundred and forty-nine, to one in five thousand eight hundred and sixty; whereas ether shows a mortality varying from one in twelve thousand nine hundred and forty-one to the figure previously mentioned.

The action of both drugs is through absorption by the lipoids. Both produce marked depression, and their administration is accompanied by symptoms identical with those we have learned to recognize as due to shock. Chloroform has a particularly deleterious effect upon the parenchyma cells of various organs, notably the liver, in which organ fatty degeneration may be induced by its action, and a true cirrhosis ensue from its repeated administration. That its effect upon the kidney is not less harmful than ether we believe it also an established and proven fact. Its fatalities upon the operating table come so quickly through the heart, that the patient is dead before any attempt to save can be instituted. Each, however, has its place in surgery and there are cases in which one or the other should be employed to the exclusion of any other general anesthetic in the interest of the patient.

*Read before the Jefferson County Medical Society.

It has been noted for some time,—in fact for some years,—that the administration of an anesthetic in certain types of cases demanding operative intervention, meant practically the death of the patient, and we began to ask ourselves why this was. It was not an uncommon occurrence that profoundly septic patients in which a life-saving operation was demanded, did not recover consciousness after anesthesia, but would die in a comparatively few hours. It was observed that such patients came off the operating table profoundly shocked, clammy with perspiration, and in infinitely worse condition than when the operation was begun. This began to lead many of us away from ether and chloroform and to the use of that agent re-discovered by Wells in 1844 and long used in dental surgery, and often in the hands of charlatans, viz., nitrous oxide; it being noted that patients who were given nitrous oxide would recover, or at least that death did not ensue within a short time, that death was not determined by the operation, but when occurring followed as a result of the pathological lesion for which the operation had been performed. In other words, in these bad cases we learned that the anesthetic agent practically determined the outcome.

That nitrous oxide was apparently free from danger had seemed evident from observations in a great number of cases in which it had been given, and from the fact that those who had been and were giving it had not been especially trained in the use of anesthetics. Thus we find that Buchanan, in the *Medical News*, for 1893, comes to the conclusion, after careful study of many millions of inhalations of this gas, that the mortality was probably two in ten million five hundred thousand cases. It was very likely that the startling difference in Buchanan's table with reference to the mortality of various anesthetics led to a search for the cause, which had not only been productive of vast good, and of a more thorough understanding of the action of the various anesthetics, but of a better appreciation of anesthesia itself.

Much of the development and popularity not only of local but spinal anesthesia,—if one may be permitted to distinguish between these two, though the principles are the same,—may be attributed to the dangers and unpleasant sequelae of general anesthesia. That local anesthesia is ideal we do not believe. However, it has a distinct place in surgery, and should always be considered as one of the methods of choice in determining what is best for the individual patient before us.

Local anesthesia has been brought to a high stage of perfection by Braun, and to anyone who is interested in the subject we would ad-

vised a careful perusal of his book, the third edition of which has recently been issued. It is a classic and contains much interesting and valuable information.

No one longer doubts that operations of the greatest magnitude may be safely executed under local anesthesia, and with the use of novocaine, large quantities of which can be employed without fear of lethal dosage, Braun and others have accomplished resection of jaws, of ribs, have done nephrectomies, herniotomies, and in fact almost every type of operation. The principle of Braun's method is the same as that of the French "blocc a distance," and although the effect is similar to that of Schleich's infiltration method, it differs therefrom in that the injection is made beyond and around the operative field. This "leitungs" or conduction method we have used in a number of instances with the greatest satisfaction, although it has objections just as have all methods of local anesthesia. To obtain the best results a knowledge of the nerve supply to the part is necessary, also the direction from which the nerves enter the operative area.

The strength of novocaine solution recommended by Braun varies from one-half to one per cent., and to this is added a small amount of adrenalin. Of the one-half per cent. solution, which we have used repeatedly, as much as 200 to 250 c.c. can be injected without the slightest toxicity. The novocaine and adrenalin should of course be thoroughly sterilized, and for the injection we use a Record syringe of either 5 or 10 c.c. capacity. About twenty to twenty-five minutes should elapse between the injection and the beginning of the operation, otherwise the patient will by no means be satisfied with the method, nor will the surgeon be favorably impressed therewith.

The films illustrating operations performed under local anesthesia have been kindly loaned me by my friend Dr. Jacobson, of Toledo, Ohio; the lantern slide illustrations are from Braun, excepting those showing the syringe, which were made by Dr. Hays of this city.

What is the objection to the use of local anesthesia, and what also, may we ask, is the objection to the use of general anesthesia alone when there are no contraindications? As has been shown, ether and chloroform are tremendously depressing, in other words, they produce shock. To a far less extent, infinitely less in fact, this is true of other inhalation anesthetics, but least so with those which produce anesthesia not through toxicity but rather by their mechanical effect as it were, such as nitrous oxide.

The ideal method of anesthesia, as Crile has

shown, is a combination of local and general anesthesia, which he has termed the "anoci-association method." Morton robbed surgery of its excruciating agony, and through the introduction of asepsis Lister has been the means of "saving more lives each year than were lost in all the Napoleonic wars." So by the introduction of this last method we have robbed surgery of its psychic dangers, and have removed from the operating table one of the greatest and most constant dreads of surgeons, that element which, the operation itself successful, has resulted in so many fatalities, viz., shock.

The entrance of septic material into operative wounds is under our control, the selection of the operative case lies with us, the prevention of hemorrhage is possible to the careful surgeon; but with the necessity of more or less prolonged operations upon vital structures, it has not until the present time, i. e., until the introduction of the "anoci" method been possible for us to do any operative work, no matter how slight it might be, without greater or less psychic influence. While this does not always necessarily result disastrously, to show that it not infrequently does so, I need only again call attention to the septic cases previously mentioned where patients have died soon after coming off the operating table.

Upon what do the principles of the "anoci-association" method depend? As its originator says, upon the abolition of all noxious perceptions through the special and psychic senses. Of all the senses, pain (i. e., the perception of contact) is the oldest. In the primordial state it was through the contact sense that food was obtained. In the process of development the being also recognized and was made aware of its enemies through the sense of touch. In further evolution special organs were developed which enabled the being to detect and distinguish its enemies as well as its foodstuffs by sight, by hearing, by smelling, and by tasting. By development of the tactile sense and a more acute tactile perception and a lowered threshold, influences which were inimical to the safety of the individual were translated into pain. With the infliction of pain came the association of fear. Pain, fear, physical exhaustion, overpowering emotions, psychic insult, all being related, produce similar changes in the central nervous system corresponding absolutely with those which today we recognize as due to shock.

Fear was the dominant emotion of the being early in its career, it was greater than that of reproduction and likely overshadowed that of self-preservation, as it was through this emotion that the being was driven to seek

refuge from danger which it avoided even though hungry and desirous of offspring. It was the most necessary emotion for the existence and perpetuation of the organism. From it, by specialization, were evolved all other senses and emotions,—thus love, hate, envy, ambition, etc., all are offshoots of fear, biologically related to it, and may be translated into fear. It is to-day the most dominant emotion of the human brain, though frequently subconscious, neither the individual nor his intimate associates translating it as such.

Through the "anoci-association" method of anesthesia it is proposed to abolish all communication between the operative field, i. e., the painful area—the fear excitor,—and not only the conscious but the subconscious perceptions of the patient. It is further proposed to abolish entirely all psychic factors which may be of harmful influence to the patient. This latter is not necessary in all classes of surgical work, as in many instances it is very slight, though occasionally in the most robust patient, and not infrequently in operations performed upon children and women, tremendous harm may result from the presence of fear.

Moynihan has denominated the discovery of the "anoci-association" method of anesthesia as one of the greatest achievements in the entire history of surgery.

Our own experience with it has extended over a period of about eighteen months, during which time we have had ample opportunity to judge as to its usefulness, and have had quite a sufficient number and variety of cases to entitle us to express an opinion concerning its value. We have used it hundreds of times, and it has been in every instance entirely satisfactory; it has fulfilled its promise, and, in the words of a recent patient, "has robbed surgery of its horror."

When one considers that morphine is rarely necessary, and then only in the smallest dosage, following work performed under this method, when one notes the absence of circulatory disturbances following grave or prolonged operations, when one no longer hears complaints of gas pains after abdominal section, and notes the smiling and happy countenance of the patient after major operations under "anoci-anesthesia," one is convinced of the tremendous addendum to our surgical methods that we have in this procedure. In our hands numbers of patients have been successfully given the benefit of surgery, and this is notably in that class of cases with renal lesions, or who for other reasons were bad surgical risks, to whom we would otherwise have feared to advise the operations which were necessary for their relief and the

outcome of which by any other method of anesthesia, would likely have been fatal.

There is by this method a perfect and complete severance of all nervous connection, not only of the special senses with the brain but also an absence of all harmful psychic influences, and a subjugation of all excitation which might arouse the biologic associative memory of injury. The threshold of the brain, instead of being lowered to sensitive impressions, is raised. The brain cells are not exhausted in their effort through fear of damage to escape the trauma, as there is no communication between them and the blocked field of operation; nor is this communication reestablished until the injury has been practically repaired, i. e., until there is no longer any alarm sent out from the operated area, as reconstruction is going on, not destruction. In other words, the brain perceptions are absolutely shut off from danger through every avenue, hence no pain, therefore no biologic fear, consequently no nerve cell exhaustion, therefore no shock.

If one but bears in mind the response through pain and its closely correlated sensations to all unnatural or harmful stimulation, one readily appreciates why these patients have no post-operative fever or pulse increase, gas pains nor in fact any of the unpleasant sequelae which follow operation and may be a source of annoyance to both patient and surgeon.

It should be remembered that pain is really a conservator, a guard for the body, an "alarm bell" as it were. Braun very beautifully explains this, and from a biologic standpoint we must accept it as correct. Thus all infections manifest themselves by pain, or some symptom translated into pain. So perceptions of cold, of heat, of hunger, are dependent upon this association. Again, the absence of symptoms akin or related to pain in the very young and very old are due to the absence or growing weakness of this biologic associative memory.

The method in brief is as follows: From an half hour to fifteen minutes before the operation, the patient is given an hypodermic injection of morphine and atropine, morphine and scopolamine, or morphine plain, dependent upon the judgment of the anesthetist. The patient is taken directly into the operating room, where gas-oxygen is administered as the anesthetic. The field being prepared, the line of proposed incision is injected with a one-quarter per cent. solution of novocaine. After the incision is made through the skin and fat, the fascia and the muscles are likewise injected. The incision is then continued until the depth of the operative field has been reached. In abdominal work, after the peri-

toneum has been opened, it is reflected and well injected beyond the line of incision with novocaine followed by quinine-urea-hydrochloride in one-half of one per cent. solution. The mesenteries of organs to be operated upon in intra-abdominal work are also injected with novocaine solution before their division. This is true of the intestines, the gall bladder, the appendix, the uterus and the appendages. In kidney work the injection is made well around the kidney, though this organ similarly to other intra-abdominal organs, as a rule is not very susceptible to contact impressions. After the tissues have been divided all suture lines and areas in the track of ligatures and proximal thereto are injected with the quinine-urea solution. Before closing the incision, the muscles, fascia and skin are also injected well behind the proposed suture line with quinine-urea. Care must be observed in all cases to see that the novocaine solution is well distributed by pressure before cutting, and we should also be sure to inject the quinine-urea solution well behind the operative field.

We have within the past month performed three radical breast operations under this method of anesthesia, and neither of the patients had the slightest pain, discomfort, nor were they even aware of the operation. I mention these cases as they are outside the field of abdominal surgery.

Following this method we have been able to operate upon patients with enlarged thyroids which we would not have dared subject to the knife previous to the introduction of this procedure. We are satisfied that our mortality has been lowered, and the post-operative condition of our patients has been much more satisfactory and comfortable in every way.

The slides which we show you are taken from illustrations previously published, and are therefore not original. The film we had made to demonstrate the method and to show the absence of straining on the part of the patient during the operation, the absence of the necessity for the use of retractors in abdominal work, and to show with what complete satisfaction all abdominal operations can be performed under the "anoci-association" method with gas-oxygen anesthesia.

While we have not used gas-oxygen exclusively in our work, we give it preference as a routine measure in all instances. The expense is about one dollar for every ten minutes of its administration, but this has not prevented poor patients from receiving its advantages without any cost whenever it was deemed advantageous for the individual. In cases where ether has been given "blocking" has been done just the same, the latter being routine in all operations in a clean field.

The administration of nitrous oxide and oxygen for general anesthesia is not, however, without danger. This danger comes almost exclusively from inexpert administration. One may kill as easily or more easily by this gas than by strangulation or smothering with a pillow. It is absolutely essential to give a proper percentage of oxygen,—7 per cent. to 9 percent.—though 4 or 5 per cent. is enough to keep the pilot light going in the brain. Anesthesia is produced in structures in the order of their development, thus the brain being the highest, goes under last; hence the patient may talk and still feel no conscious pain. There is no increase in bleeding as with gas alone, no straining and for prolonged work it is much to be preferred, contrary to the generally accepted teachings and opinions. Jaecitation and rigidity are evidences of inexpert administration. So also is blueness as with the proper administration of oxygen the skin remains of normal color. The only cases in which it is not advisable or is contraindicated, are in the very young or in brain surgery.

In conclusion let me recommend that you give the "anoci-association" a fair trial, for as surely as you do you will subscribe to the expression of our English confrere that it is the greatest surgical discovery of the age.

DISCUSSION.

J. G. Sherrill: I wish to thank Dr. Frank for myself and on behalf of the Society for his elegant presentation of this subject.

The essayist stated that Crile gets a mortality of something like one per cent. in his goiter cases under this method of anesthesia. On the other hand, Dunhill, of Melbourne, Australia, has had a somewhat less mortality in 368 cases never refusing a case, and doing his work under local anesthesia entirely. There are many ways to reach a certain point and, in my opinion, the best and most direct way is the straight line. We know that we can do many operations under local anesthesia, but the surgical profession of American has not been fully awakened to the value of local anesthesia. I have myself done some very major operations under local anesthesia, having recently removed a large tumor, weighing eleven pounds, from a woman who was considered to be a poor subject for general anesthesia. She stood the operation well and went off the table with her physiologic equilibrium unchanged. I think the greatest value of the anoci method is in the mind of the man who devised it, but the majority of patients do as well, whether operated upon under local or general anesthesia. Everything we add to our technique lessens by that much our ability to do good work. Simplicity is the keynote of surgery. We can do major operations such as resection of ribs, removal of tumors, resection of the jaw, and so on, under local anesthesia. Why

tax your patients then, with a general anesthetic. I see no reason for prolonging the operation the length of time necessary to inject the abdominal wall for instance, when we are going to give a general anesthetic. On the other hand, I see little use for giving a general anesthetic if we are going to supply local anesthesia. However, each man works out his technique to his own satisfaction, and I contend that short operations, with little loss of blood little handling of tissues and little traumatism constitute ideal surgery. The wound does not pain the patient if there is no infection in it and no nerve fibres have been incorporated in the line of stitches. Infected wounds are the ones that give rise to gas pains, and if we handle the abdominal viscera unduly, pull it out and haul it around, that also will cause trouble. With proper technique we can get just as good results under one method of anesthesia as another. I have no desire to decry the anoci-association method of anesthesia, but I see no reason for encumbering ourselves with a great amount of technique when we can get just as satisfactory results from an uncomplicated technique.

Jno. R. Wathen: I think the society is to be congratulated upon having had one of the most entertaining exhibition that has ever been presented to it. It serves to impress upon us the value of illustrating our work and the work of others in such a way that we can all grasp it and benefit by it to a much greater extent than we can the ordinary stereotyped manner in which these subjects are usually presented.

The anoci-association method of anesthesia has attracted world-wide attention; largely, I believe, because of the reputation of the man who devised it. At the same time, I think we are all a little too prone to take up all sorts of fads and fancies. One should not be the first to take up a new thing nor the last to drop the old. After the value of a new thing has been fully demonstrated, then one should accept it. It will take many years to conclusively demonstrate the value of the anoci method of anesthesia. Recently, in a conversation with an operator in what is probably the largest clinic in this country, I asked him why they did not more frequently employ the anoci method, and he replied that, while it was undoubtedly of value in selected cases, they did not use it as a routine measure. I have used the anoci method in a limited way and in the future I believe I will give it even more attention.

Anesthesia is still in its infancy and I hope there will come a time when spinal anesthesia is perfected. If I am not mistaken, in Europe and, in fact all over the continent spinal anesthesia is taking the place of general anesthesia. I am inclined to the opinion that in the complete anoci-method—that is, local anesthesia in conjunction with nitrous oxide gas and ether we are giving just a little too much anesthesia. We do not need

it all to obtain satisfactory results.

As far as goiter work is concerned, I think the anoci method has been more or less of a failure in large goiters; in small ones and ligations, it is very nice indeed, but when it comes to heroic work I prefer to have my patient under a general anesthetic. One reason is that we are not dealing with a class of patients like those of Germany, for instance, who will permit the surgeon to commit almost any amount of traumatism without resisting.

I think this is one of the best papers we have ever had before this society.

E. O. Grant: I was associated with Crile for a period of a little more than a year, and during that time I helped him in something over 1400 operations under the anoci-association method of anesthesia. Since I have been here, Dr. H. H. Grant, with whom I have been working, has used it a number of times, and it has certainly been of great advantage. Dr. Crile's mortality during the year I was with him was 1.7 per cent. and the patients were remarkably free from after-pains, such as gas-pains. It is a real pleasure to work in a hospital where one is not called upon in the middle of the night to give a patient relief from gas pains.

Dr. Frank mentioned the cardinal principles of the technique which it is very important to observe; namely, careful injection about the line of suture, which prevents after pains, and extreme care in putting the proper amount of pressure on the tissues after novocaine is injected. Without proper pressure, the local anesthesia is of no benefit.

Another advantage is that there is very much less bleeding from the superficial wound under local anesthesia. If I am not mistaken, the mortality rate in the Lakeside Hospital has, in the past three years, declined from 4.7 per cent to 1.7 per cent. This is an acute hospital, where everything is treated; it is practically a city hospital, and fractures, goiters, and everything else are brought there.

Dr. Crile has done some wonderful work with this method in goiter cases. I have in mind two cases of extreme exophthalmic goiter, in which the goiters were entirely removed and the patients left the hospital without knowing that they had been operated upon.

As to the time consumed when this method is employed, that is largely a matter of experience, and is more than offset by the time saved in intra-abdominal operations, and the trauma saved, by not having to use tractors and by not having to use large sponges, etc. Therefore, in my opinion, as a time-saving proposition, and for promoting the comfort of the patient after operation, this method is incomparable to those heretofore taught.

F. T. Fort: I think this anoci method is merely a question of an individual getting results from

a certain technique of his own. I had the pleasure of seeing the work of what I believe to be one of the world's greatest surgeons recently, and he is perfectly satisfied with the results he gets from his technique. I think his mortality rate is as low as that of Crile, and yet he did not use the anoci method in a single one of more than a hundred operations that I saw him do. The anoci method may be of benefit in certain selected cases, but I believe it is simply one of those new things that come and stay awhile and then disappear forever. It adds to the danger in that it necessarily prolongs the operation a sufficient time to administer the local anesthetic in addition to the general anesthetic. Therefore, until it has been investigated fully and has been adopted by a great many men who are not now using, I do not know that I am very much in favor of this method.

Jno. W. Price, Jr.: I had the pleasure of working with Dr. Frank before he adopted the anoci-association method of anesthesia, and in looking back over a number of cases we had prior to its use, and comparing them with others since adopting this method, I can say that I am fully in accord with his views. It undoubtedly leaves the patient in more comfortable condition following the operation. The absence of gas pains has been especially noticeable; also, freedom from pain along the line of incision, and throughout the abdomen in general. Those who would decry this method had better give it a little further trial before they absolutely condemn it. The more I have seen of it, the better I like it, and I hope to see it used for some time to come.

Hugh N. Leavell: I would like for Dr. Frank to tell us, in closing, whether he has observed a trophic condition, locally, following the use of this method of anesthesia?

During my association with Dr. Dabney, covering a period of some ten years, we frequently used a combination of local and general anesthetics, and there was no doubt in our mind that shock was often averted by this means. Such operations as enucleation of eyes, cataract operations, and iridectomies often required general anesthesia, and during the last five years of my association with Dr. Dabney, we used a local anesthesia in conjunction with the general anesthesia, and found it to be of marked advantage in every way. That was some ten years ago, and probably preceded this block method of anesthesia to some extent. Be that as it may, the fact remains that there was less shock, better anesthesia, and the patient came out from under the anesthetic in much better condition than when only general anesthesia was employed.

It occurs to me that here is a possibility of trophic disturbance resulting from too much local anesthesia. It has been suggested by Dr. Grant that, in order to secure anesthesia from novocaine, it is necessary to use it under pressure.

We know that we can sometimes produce local anesthesia by the use of water under pressure as well as novocaine; the pressure itself has a tendency to produce anesthesia. Therefore, if the novocaine must be introduced under pressure, why may it not cause interference with the trophic condition of the nerve as well as its anesthetic condition?

J. B. Richardson, Jr.: I would like to ask Dr. Frank if it is a fact that it requires less ether to maintain anesthesia under this method than otherwise?

If I understood the essayist correctly, he made the statement that death from nitrous oxid gas and ether anesthesia will never occur except in the hands of those not experienced in its administration. I differ with him there. I believe that death will occasionally occur from anesthesia, no matter how expert the anesthetist may be in their administration. If I have misunderstood Dr. Frank, I will be glad to have him correct me.

E. L. Henderson: In reply to Dr. Richardson's question, it has been my experience, in giving this anesthesia for Dr. Frank, that it does require considerably less ether to maintain anesthesia than otherwise; in other words, it is not necessary to keep the patient as deeply under the influence of the general anesthetic as when the anoci method is not used. Under nitrous oxid and oxygen anesthesia, it is very hard to relax the patient sufficiently for abdominal surgery when this method is not used, but I have observed that when it is employed abdominal work can be done very satisfactorily under nitrous oxid and oxygen. We do not have the intestines coming out and the patient moving about as we so frequently do when the anoci method is not employed.

Louis Frank, (Closing): Answering Dr. Richardson I will say, my statement was that gas oxygen anesthesia was the **least** dangerous in competent hands of all methods of general anesthesia, but that in the hands of inexpert anesthetists, it might be the most dangerous.

Correcting Dr. Leavell's impression, Dr. Grant did not say that the novocaine was put in under pressure; he said that pressure was used when novocaine was introduced, which is entirely different. The pressure is employed simply to spread it.

We have not had a single case of suppuration in a clean wound following the use of novocaine and quinine urea. We have, however, seen a number of cases where drainage was employed, where there was a violent septic condition—a general diffused peritonitis, if you choose—that have healed directly up to the point of drainage by primary union. We use plain catgut for the skin throughout. I think this answers Dr. Leavell's question as to trophic changes.

I am not here to defend Dr. Crile; he is amply able to take care of himself, and of the anoci-association method, in this or any other audience.

But I do wish to say that the gentlemen who have not used this method except on two or three or a dozen occasions, and maybe then discarded it, are in no position to speak with authority. I would also call attention to the fact that before the introduction of any form of anesthesia, operations were much more rapidly and dexteriously done than now but how about mortality. We do not offer this method as a *sine qua non* for the eradication of mortality, nor can we, by this method alone, reduce our mortality. This is a physiologic age in surgery, it is our aim to maintain the patient's physiological condition as near the normal as possible. Neither is this method a fad that is put forward to attract patients and doctors. God forbid that any man who is respectable and who believes in his profession should resort to such means to attract business. "*Honi soit qui mal y pense.*" It requires, for the reduction of mortality, attention to every detail that will save the patient—save his nervous mechanism, prevent bleeding, obviate shock, and so on. Surgical judgment is a potent factor in the prevention of mortality, and the technique of the operation is only one of many factors. We do not put this method forward as a means of saving life, alone, without the exercise of good surgical judgment and without proper operative technique.

Whether or not the greatest surgeon in this country (and here one has the right to his own opinion as to who may be the greatest) has adopted this method, the fact remains that it has been adopted by such men as Moynihan, of England, and others who stand equally well, and they use it as a routine measure.

Dr. Henderson has answered Dr. Richardson's question as to the comparative amount of ether necessary to maintain anesthesia when this method is employed.

The General Hospital.—E. F. Stevens, Boston (Journal A. M. A., January 24) gives from the point of view of an architect the essentials of the ward and operating units of the general hospitals which he has recently visited and also of a number of American institutions recently planned and comments on them. The essentials can be classed under the heads of "comfort to patients and accessibility to service." In addition to the usually recognized essentials he mentions the therapeutic effect of color and the absence of noise from clicking latches, etc. Under accessibility he adds to the usual recommendations that of a special room for placing cut flowers in at night where they can be rearranged in the morning, and wash-basins for the doctors and attendants in the corridors adjoining the wards and attention to the width of doors and metal protection of corners that are liable to be bumped.

HARE-LIP.*

By D. O. HANCOCK, Henderson.

"How disappointment tracks upon the steps of hope."

This truth is perhaps never more true than when deformity is found in the new-born.

Death itself is often preferred as is suggested in the popular little poem of Ella Wheeler Wilcox:

"I married a girl with perfect health,
And virtue and spotless fame;

* * * * *

And I gave her the love of a heart,
Grown sated and sick with sin.

* * * * *

She was going to bring me a child,
And when in labor she cried,
With love and fear I was wild—
But now I wish she had died.
For the son she bore me was blind,
And crippled and weak and sore;
And his mother was left a wreck:
It was so that she settled my score.

* * * * *

Folks talk too much of a soul,
From Heavenly joys debarred,
And not enough of the babes unborn,
By the sins of their father scarred."

These lines apply more particularly to syphilis. But the underlying thought, heredity, transmission, should concern all parents and those who may become parents.

Our subject is one of faulty development,—of failure of Nature to do her perfect work. Whatever would tend to influence pre-natal life and cause these results are matters of deepest interest to child-bearing women.

Maternal impressions as an explanation is far-fetched and unscientific. Great sin and the wrath of God are likewise nonsensical.

Imperfect development in utero might result from disease; from impoverished physical condition of the parents, or from drugs, narcotics, etc. High authority states that, "As a rule it remains for the third and fourth generations to reap the full results of alcoholism." The parents of the cases before us now are not alcoholics. Their lives, however, have been described as "The short and simple annals of the poor," not destitute, but people who meet the responsibilities of life with honest toil; mothers who have had frequent pregnancies and who personally care for their children; fathers who go hard against the "bread and butter proposition."

The wonder is that there is not more of faulty development and deformity; that na-

ture is so true to type, in the face of so many things that hinder. In the more fortunate condition of life men and women also make true the lines:

"I said I would have my fling,
And do what a young man may;
And I did not believe a thing,
That the Parsons had to say."

Mechanical prevention of development by amniotic bands and adhesions is given as a cause of these deformities. And again they are said to occur from unknown causes.

Very early in foetal life a series of clefts appear on each side of the cephalic extremity, separated by rods of tissue called brachial arches. These clefts communicate with the alimentary canal. The first brachial cleft is between the mandibular arch and the hyoid arch. The mandibular arch develops into the superior and inferior maxillary bone between which is the buccal cleft, which closes early except the aperture for the mouth.

In development the superior maxillary bone does not unite with its fellow in the median line. The intermaxillary bone is interposed. This bone supports the incisor teeth. It sometimes projects far beyond the line of the gums, and is troublesome in doing operation for hare-lip.

These various clefts have usually coalesced by the ninth or tenth month of foetal life. Occasionally this coalescence fails or is incomplete. We are then confronted with the various deformities, one of which is hare-lip. It is produced by non-union of the intermaxillary with the superior maxillary bone, hence it may be on either side, single hare-lip; or on both sides, double-hare-lip. One of our cases is of this type. It is never central. Occasionally the inter-maxillary bone is absent.

Hare-lip occurs in about 1 in 2400 of all births; double hare-lip occurs in about one-tenth (1-10) of all cases of hare-lip.

The upper lip is formed in three parts, the central, or philtrum, which grows from the vomer and inter-maxillary bones. The two lateral parts are supplied by processes of the upper jaw.

Hare-lip may involve only the soft parts. And may be single or double. One of our cases is single hare-lip of the soft parts.

The conditions found in the two cases before us, before operation are well shown in plates No. 656 and 657, on page 733 of Wharton & Curtis. Text on Surgery, which I pass you. The parents of these children and those of you who were with me in operating them will recognize the correctness. Case 1 is a girl ten years of age, double hare-lip; failure of union on both sides, extending through lip and bone. The inter-maxillary bone protruded further than is shown in cut. Operated

*Read before the Henderson County Medical Society.

January, 1904. Removed inter-maxillary bone; dissected up the lip; approximated the tissues. We secured only partial union of the soft tissues. Operated again in August of 1904. No other operation. You observe that the vermilion border is about perfect. The lip is a little short; but the teeth are well covered and phonation is good. The nose is flattened. Otherwise little deformity. There remains some space where the inter-maxillary was, and there is absence of the upper incisors. She is a well-nourished school girl of ten, and helpful at home.

Case 2 is a ten-months-old girl. This patient had a single hare-lip of the lip only. We did a modified Nelaton operation. Dissected up the lip. Secured the parts with silkworm gut, and adhesive. Union by first intention. Removed sutures on seventh day. Continued adhesive for several days longer. This operation was done on November 5, 1913. After two months I exhibit the result to Henderson County Medical Society. The line of union is vertical and extends to the orifice of the nose, showing the extent of the hare-lip. You observe a slight deformity of the left alae. This is markedly better than before operation. The vermilion border is slightly exaggerated. But when the child laughs it is correct and symmetrical. The teat on the border is the apex of the V-shaped edge of the hare-lip pulled down after making the incision along the border. It will be removed by adjustment, absorption and cicatricial contraction.

Mean spirits under disappointment, like small beer in a thunderstorm turn sour. Or like the turtle, turn loose their hold on the desirable. And, so, many parents of hare-lipped children allow them to go on and through life uncorrected. A living evidence of their stupidity.

Not so with the cases now before us. I have had the faithful, intelligent and patient support of the parents of these children, and they have their reward.

Quinsy. Treatment. To relieve dysphagia, place on tongue 0.3 to 0.4 Gm. (5 to 6 1-2 grains) of dry orthoform or anesthesin powder. A few movements of deglutition, without previous admixture of saliva with the powder, will bring it in contact with affected parts. Measure also useful after operation on tonsils.—Hinsberg.

Renal Inflammation. Diagnosis. With patient sitting erect, but relaxed, lightly palpate lumbar muscles. If one kidney is seat of an inflammatory process, muscles on that side will feel firmer than normally.—Pottenger.

CLINICAL CASES

CASES OF OCULAR DISTURBANCE CAUSED BY NASAL DISEASE.*

By S. G. DABNEY, Louisville.

The dependence of disease of the eye upon the nose and accessory sinuses is well known. The following three cases are of interest, *especially because in none of them did the patient give a spontaneous history of nasal disturbance* and even on close questioning, no definite symptoms about the nose were mentioned. They came purely for an examination of the eyes.

Case I. Mrs. X., aged about 65 years, was referred to me by her family physician for ptosis of the right upper lid. She stated that this ptosis had existed for a year or more but had gradually increased. That in addition to this she had headaches, frequent and severe, and occasional double sight; she was also subject to "nervous spells" during which she more or less lost control of herself. Her daughter, however, a very intelligent woman, stated that she believed these nervous spells had always existed in her mother's case and were not of much significance. Notwithstanding this, the ptosis, the occasional double-sight and the headaches all strongly suggested some intra-cranial disease.

The ophthalmoscopic condition of each eye was normal and the sight with a correcting glass was perfect in each. On further questioning as to previous illness, this lady told me that she had had disease of antrum of Highmore on the right side and an opening had been made into the antrum through the tooth socket by a dental surgeon.

Examination showed that the antrum was now pretty clean (being washed out every day through this opening) but the middle turbinate was enlarged and inflamed and there was pus oozing from beneath it; pressure at the upper inner angle of the orbit under the floor of the frontal sinus showed great tenderness and trans-illumination of this sinus, made by carrying a very small Tungsten lamp as far back as possible in the upper inner angle of the orbit, showed this sinus to be much darker than the other.

In the further observation of the case, I became convinced that this was a case of involvement of all the sinuses on the right side, the posterior ethmoidal and probably the sphenoidal being diseased as well as the three anterior groups. As the lady was, however, not a good subject for a radical operation, I decided, first of all on doing what work I could

*Read before the Jefferson County Medical Society.

through the nose. A resection of the middle turbinate was made and later on a pretty thorough curetting of the ethmoid cells and the infundibulum up into the frontal sinus. Under these measures the ptosis has improved though it is far from cured; the headaches have become so slight as to give her but little annoyance and she has no more double sight.

I hope to do still further work upon the posterior ethmoidal cells and to go into the sphenoid if the symptoms demand. Meanwhile, she seems pretty comfortable, the nasal discharge has greatly diminished and the tenderness in the floor of the frontal sinus has disappeared so that external operation does not seem justified at present.

Case II. Mr. A., age 29, a professional man who uses his eyes a great deal was given glasses by me in November, 1909. For two or three years these glasses gave him entire relief. This fall he returned to see me complaining of headache in the left temple and in and around the left eye. He thought that his glasses needed a change. A careful examination, however, showed the same refractive error as before. On questioning him about his nose he said that he had not noticed much wrong, though perhaps the left side was somewhat less free than the right. A superficial examination showed nothing, but after shrinking the nose thoroughly with adrenalin and cocaine, there seemed to be some fullness under the middle turbinate. Further investigation showed a polyp pushing under this bone far back. A resection of the turbinate revealed numerous polyps in the ethmoidal cells; the removal of these by snare and curette quite relieved the symptoms.

Case III. A young lady of 19, consulted me in regard to discomfort in the use of her eyes, particularly the left. She had some pain in this eye almost constantly and was unable to use her eyes for more than a few minutes without great discomfort. The history seemed so plain of ocular disturbance that I tested this young lady thoroughly with the accommodation suspended. I also went carefully over the condition of her ocular muscles and of course made the usual ophthalmoscopic examination. I could find nothing whatever wrong with the eyes. Although there was no history of nasal disturbance I made an examination of the nose and found very extensive polypoid degeneration of the ethmoid.

The condition was far more marked on the left side.

In addition to the great number of small polyps, the ethmoid cells were filled with a semi-solid cyst-like material; the middle turbinate was partially resected and the ethmoid thoroughly curetted. It was somewhat

remarkable how soon the discomfort in the eyes disappeared indeed, the mother told me that within a day or two after the first operation the young lady experienced entire relief.

It is interesting to note that the father of this patient, a man somewhat past middle life, was operated on by me some years ago for very extensive ethmoidal disease with numerous polyps on both sides.

The literature in regard to the influence of nasal disease upon the eye is extensive. The ocular affections so produced are of the most various character and the theories to account for the relation between the nose and the eye are numerous and often conflicting. I have purposely refrained from entering upon any of these questions; to do so would be really to write an essay and as I understand it I have been invited merely to report a few cases.

DISCUSSION.

Adolph O. Pfingst: The cases reported by Dr. Dabney are very interesting, particularly because of the fact that they exemplify a condition that may exist in the nose without manifest symptoms. We may have diseases of the ethmoid cells without having a purulent discharge from the nose. These patients may go along for months and years without being cognizant of any nasal affection.

The fact that disease of the posterior ethmoidal cells may give rise to pressure symptoms has been suggested in the last few years, and is gaining favor among ophthalmologists.

It is not improbable that many of those cases of retrobulbar neuritis, in which the etiology was formerly in doubt are caused by pressure upon the optic nerve, due to ethmoid disease. Personally, I have never seen a case of optic atrophy following retro-bulbar trouble that could be attributed to ethmoid disease, but I believe that such a thing is possible.

Dr. Dabney is to be congratulated upon being able to relieve his patient as readily as he did. The treatment of ethmoid disease is a most difficult problem. We have to deal with a labyrinth of diseased cells and we never know how far the disease extends. Operations on this part of the body is extremely difficult, and we cannot tell how much improvement will follow.

Gaylord C. Hall: I have been very much interested in Dr. Dabney's report.

For the purpose of convenience, the symptoms of this condition are divided into three types: (1) the so-called reflex type, which is the most common, and into which I take it the last two cases reported by Dr. Dabney would fall; (2) those of a toxic character, from pus in the accessory sinuses, and (3) those of a pressure character, due to mechanical displacement caused by rupture of the accessory sinuses into the orbit. The latter type is, of course, the most rare. The

toxic symptoms are commonly those of disease of the optic nerve, enlargement of the blind spot and, to a certain extent, imbalance of the optic muscles. Reflex symptoms are the most common. While I may not be able to prove it to the satisfaction of others, I am firm in the belief that practically all of that large class of patients who have been carefully refracted and cannot wear glasses, come under the latter classification. It is a mistake to look into the nose with the expectation of finding a flow of pus from either side of the middle turbinal. These patients do not evidence pus in the nose on superficial examination, and that is the reason for their symptoms. Those cases where the accessory sinuses are drained satisfactorily do not, as a rule, manifest pressure symptoms.

I would like to ask Dr. Dabney, in closing, what was the nature of the double vision in the first case reported; whether it was due to actual involvement of the inner wall of the orbit, or whether it was due to some toxic disturbance? I believe a great many of these patients exhibit a slight degree of muscular paralysis which clears up after operation on the nose. It is not due to any trouble in the muscles themselves, but to innervation of these muscles from irritation on that side.

Jos. J. Shafer: From Dr. Dabney's paper we can learn how essential it is to make a routine examination of the nose and accessory sinuses in any disturbance involving the eye, particularly where we can not get a definite history as to the causative factor. When we recognize the fact that in acute and chronic catarrhal conditions of the nasal tract and accessory sinuses we have inhibited a great many bacteria, such as micrococcus catarrhalis, bacillus coryza, Friedlander's bacillus, Frankel's pneumococcus, all forms of staphylococci and streptococci, and micrococci we must admit that we have here an incubator of pathogenic bacteria. Consequently when the air chambers become blocked, interfering with ventilation and drainage, thereby lowering resistance, then these bacteria are taken up by the lymphatics and blood vessels to the ocular apparatus creating just such disturbance as cited by the essayist. How many cases of superficial punctate keratitis do we see that are concomitant or come on in three or four hours after an acute coryza. Here we must also admit that the lachrymo-nasal duct contributes to the pathology of a superficial punctate keratitis.

Some months ago I had the pleasure of reading Gerber's classical monograph, "Die Komplikation de Starnhohlenzungen" in the original German. He makes an accessory statement in one of his paragraphs and sounds a note of warning that under no condition should an operation be done in the nose in empyemic conditions unless the patient's resistance had been built up and proper elimination established. Such an opera-

tion as sawing off a polyp, cauterizing a middle turbinate, have produced grave ocular symptoms and caused purulent meningitis ending in death. The question arises, where do all these bacteria come from. They are certainly not all in the inspired air. From Frankel's exhaustive researches on the cadaver immediately after death, removing the accessory sinuses, he never found any pathological bacteria in normal cavities. Following Gerber's line of thought in many cases of empyema of the accessory sinuses there must have been, evidently, at one time a general sinusitis induced by a vicarious elimination of the naso-pharynx consequent upon a systemic condition.

S. G. Dabney, (Closing): As stated in the report, these cases were not selected because of their rarity, except the first one, which was a rather unusual case; the others were common and were used as illustrative cases.

It seems to be a fact that the central fibres of the optic nerve are more easily affected than are the surrounding fibres and that, therefore, pressure or toxic influence, either one, will sometimes cause a central loss of sight, or, as we call it central scotoma.

I agree with Dr. Pfingst in regard to the difficulty of curing ethmoid disease. I almost invariably direct my patients to come back within a few months. One man, whom I dismissed in the latter part of September after doing a good deal of work on both ethmoids, came back three months later with a slight return of the trouble. It is rather easy, in most cases, to give the patient relief, but absolute cure is difficult.

I am a little skeptical about this reflex business. I think the word "reflex" is sometimes used to cover a multitude of ignorance. In regard to those cases that all of us see, that fail to get relief from glasses, I do not believe the trouble is in the nose in the majority of these cases. Most of them have some underlying neuropathy—I do not mean an organic condition, but some error in the mode of life, some disturbance of the nervous system. Such conditions are, I believe, the most frequent causes of unsatisfactory results from glasses.

I agree with Dr. Hall as to the misleading results of a hasty glance into the nose. The second case I reported had no pus whatever in the nose, and until a very thorough examination had been made, no nasal trouble could be detected.

I have never used vaccine in these cases. I am very ignorant about them, but the impression I had received was that they are chiefly of value in chronic conditions. However, these cases are usually chronic. Dr. Shafer's suggestion may be a good one; perhaps we will find that the vaccines have a broader application than we suspect.

CHRONIC CONSTIPATION.*

(REPORT OF TWO CASES.)

By BERNARD ASMAN, Louisville.

My purpose in briefly reporting these two cases of constipation is to call attention to a type of this disorder which is as a rule easily relieved when properly recognized but which is frequently overlooked. Oftentimes, too, relief from the coprostasis is unexpected, is incidental to, or results directly from the treatment of co-existing rectal or colonic disease, and in this event the cure may almost be said to be accidental.

Perhaps all who have done rectal surgery have occasionally noted, sometimes probably with some surprise, that following some simple rectal operation *which required thorough stretching of the anal sphincter* that the patient afterward claimed to be entirely relieved of constipation of perhaps many years' standing.

This form of constipation first properly understood through the aid of radiography has been found to be more common than was supposed and from this the observation may be made that no case of constipation should in any wise be treated without first a careful digital and ocular examination of the rectum having been made.

The type of constipation referred to is that in which colonic motility is normal but in which there is fecal stasis in the distal colon and rectum, the accumulation taking place here because of impaired rectal reflex, the result of neglect or refusal to respond to the impulse to go to stool when the feces descend from the sigmoid and begin to fill the rectum. This so-called "call of nature" when repeatedly unheeded or postponed soon becomes much less insistent, the rectal pouch becoming exceedingly tolerant of the presence of feces and the desire to go to stool becomes feeble and irregular, thus favoring the progressive accumulation of large masses of feces in the rectum and pelvic colon—the condition now frequently referred to as the *dyschezia* of Hertz.

This accumulation in the rectum and sigmoid may persist for days, the stools, if any, consisting of only a part of the collected mass, are hard and dry and accompanied by pain. Fecal impaction may finally follow.

Presumably this form of constipation is often brought about through carelessness or false modesty but undoubtedly it is also often due to anal fissure, ulcerated hemorrhoids or other ano-rectal disease. Whether it may also be caused by an irritable and hypertrophied sphincter or whether such a condition of the sphincter is the product of the *dyschezia* is

debatable, as is also the relationship of Houston's valves. It might be mentioned in passing that auto-toxemia and neurasthenic symptoms not uncommonly accompany these conditions.

Case I.—Mrs. L., age 51, married, the mother of three children, (all living and healthy) fairly robust in appearance, but sallow in color, coated tongue, and exceedingly nervous, came under observation last week in August, 1913, because of pain in rectum which she stated had been giving her considerable trouble for the past four years, but particularly in the last month.

Personal and family history negative, as related to present complaint with the exception that during the past ten years she states she has been a periodical sufferer from muco-colitis the attacks becoming in the last year as frequent as every six weeks to two months and more and more severe in character. Constipation, present and pronounced for more than twenty years, necessitating the constant use of extremely large doses of the strongest purgatives.

Examination revealed the presence of large ulcerated internal hemorrhoids, a tight, unyielding sphincter ani.

Operation consisted in complete divulsion of the sphincter (of course without tearing its fibres) and the removal of the hemorrhoids; this being done without any reference or promise as to the constipation. On the third day after operation, without any purgative being given, there was a small fecal discharge through the anal dressing tube. On the fourth day the tube was removed and a purgative given resulting in a large bowel movement. On the sixth day the bowels moved normally without the use of a purgative. Uneventful recovery from the operation was made, and the patient states, December 15th, that she has since found it necessary to take only a small dose of cascara and that not oftener than once a week.

Case II.—Mr. C., a country merchant, aged 36, presented himself for treatment September 1, 1913, because of intense anal pain particularly during defecation, which had existed about one week and which seemed to be persistently growing worse. He said the trouble had its inception with the passage of an extremely large constipated movement one week before. Excruciating pain of a sharp, cutting character was felt at each defecation since, followed by painful throbbing and spasmodic contraction of sphincter ani for half an hour or longer. Upon examination a deep fissure at the mucocutaneous junction in the median line posteriorly was found.

It was ascertained that this man's bowels had not moved normally since childhood. He had at first resorted to the ordinary purga-

*Read before the Jefferson County Medical Society.

tives, gradually increasing the amount taken and changing from one to another, and in the past several years had been depending for the most part upon enemas—plain, glycerine, soap, etc. His anal sphincter was found to be greatly hypertrophied, tightly contracted and extremely irritable.

Under local anaesthesia his sphincter was gradually yet thoroughly divulsed, and the fissure carefully swabbed with saturated solution of nitrate of silver. This fissure healed promptly and unexpected yet pronounced relief from the long-standing constipation was at once reported by the patient. A report three and one-half months later is to the effect that the unexpected relief from constipation is still in evidence—that only an occasional mild laxative is required to keep the bowels in normal condition.

DISCUSSION.

G. S. Hanes: We not infrequently see constipation relieved by operations upon the outlet of the bowel. This is a mechanical affair. Many times if we could look at the alimentary tract of a patient suffering from constipation, we would find it normal, and functioning properly, but when the fecal material gets to the outlet it is obstructed. All the muscles are set in tetanic contraction and do not become released sufficiently to allow the fecal material to escape. In this connection, I would call your attention to the fact that every individual that has tight muscles is not necessarily constipated. That depends upon two things. We know that a great many individuals naturally have much softer fecal material when it enters the sigmoid, than others. A great many men who have investigated this question say that it is not uncommon to find hard fecal material in the proximal transverse colon; in other words, the watery material has been absorbed and the fecal matter becomes hard when half way through the transverse colon. But this is not always true. In many cases the fecal material enters the sigmoid and rectum in a semi-solid, or comparatively watery condition. In addition to this, there is often a catarrhal condition of the rectum, which acts as a stimulus, and thus the semi-solid fecal material can easily escape through a very tight anus. Therefore, we may often find the anal muscles very tightly contracted, and still the patient will not complain of constipation. On the other hand, however, if the fecal matter enters the rectum in a solid mass, and the individual has the condition described by Dr. Asman, he is always constipated, and these patients are not always relieved by operation. I noticed a report the other day by a surgeon who had done an ileo-sigmoidostomy without giving the patient relief. He had the same intensity of constipation as before. The liquid fecal material, when it came down into the sig-

moid, was, by reverse peristalsis, carried through the large gut around to the cecum, and he had the same degree of constipation as before the operation. This surgeon did not recognize the fact that, if he had relieved the surgical condition existing at the outlet of the bowel, the constipation would most likely have been relieved. Furthermore, I wish to add that the fecal material that came down into the sigmoid and passed around the large gut to the cecum, did not get there by reverse peristalsis.

Leon L. Solomon: We are all aware, I believe, that many constipated individuals, who undergo operations—no matter whether it is the bowel, that is operated upon, or whether the operation is for the relief of some pelvic disturbance, just so it keeps the patient under the observation of the physician or surgeon, for a more or less protracted period, are relieved of their constipation, at least, for a time, and it occurs to me, that this benefit is largely attributable to the fact, that, during the time the patient is under observation, whenever the bowels have failed to move, in the preceding twenty-four hours, the attention of the physician or nurse is called to the failure.

I believe that constipation is largely dependent upon a cerebral condition controlling the function of defecation. I know a gentleman, who, for years, has not had a movement of the bowels on Sunday, and, on numerous occasions, I have proved to his and my own entire satisfaction, that his habits, on this particular day of the week, are such as to overcome the "automatic condition," that, on other days, brings about an action of the bowels. This man is a wholesale merchant. Every day, except Sunday, upon his arrival at his place of business, at about half past eight or nine o'clock, he regularly empties his bowels. On Sundays, he seldom rises, until after his regular time for bowel movement has passed, and he therefore, misses the influence of the "automatic condition," that prevails on other days.

It is a most remarkable thing to me, in view of the abundant nerve supply of the lower bowel, that constipation should be as common as it is. Apparently, the Maker of us all, foreseeing that the human animal would be constipated, abundantly provided this portion of his anatomy with nerve filaments. As an example of its sensitiveness, we need only recall the fact, that, in endeavoring to revive an individual from the effects of chloroform, or in the resuscitating of an apparently still-born child, we almost invariably provoke respiratory efforts, upon introducing the finger into the rectum.

There is one thing I would like to call your attention to in connection with this subject of constipation and measures for its avoidance. Why should not the Jefferson County Medical Society go on record, as favoring the establishment of "public comfort stations" in our down-town

district? We American people have some mannerisms and customs that are peculiar to ourselves. We are more constipated than the Germans in Germany. Why? Because, in Germany, in every restaurant, in every cafe, you will see a rather conspicuous sign, reading, "For Ladies" and right next to it another one, bearing the inscription, "For Gentlemen." In Germany, where I resided some two years, as an unmarried man, I had no hesitancy in saying to a lady companion, "Pardon," and, leaving her, go to one of the stalls or apartments set aside for gentlemen. Likewise, the lady has no hesitancy in answering a "Nature's Call." It has repeatedly happened to me, that the lady, with the same "Pardon," would leave me, in order that she evacuate her bowels or bladder.

I would like to offer a resolution, that the Jefferson County Medical Society goes on record, as favoring the establishment, in the city of Louisville, particularly in our down-town district, of "public toilet rooms."

Bernard Asman, (Closing): As regards the prevalence of constipation it has been stated by some one that "every third man and every woman is constipated." While this is rather a sweeping charge observation forces one to the conclusion that the exaggeration, if any, is only very slight. Constipation is a subject of great importance to each and every one of us, whether engaged in general practice or in a particular specialty, for the reason that its relationship to many other diseases is quite intimate.

It was my pleasure also to read the report of the case mentioned by Dr. Hanes in which the operator did an ilio-sigmoidostomy and one of my reasons for reporting these two cases this evening was suggested to me because the author of the article referred to absolutely overlooked the fact that the obstruction to the fecal outflow might have been found right at the anus itself.

Furthermore, it seems that he also overlooked an easy way of stopping the flow of fecal material back into the cecum. It would have been quite easy to have done such an operation as we do when we desire to establish an artificial anus, with closure of the lower loop of the bowel. Then no fecal material could have gotten past the sigmoid flexure.

Dr. Solomon's suggestion in regard to the establishment of a public comfort station is, I think, a very important one, and I hope the Jefferson County Medical Society will go on record as heartily favoring a movement of this kind. If such a station were established in the down-town district, undoubtedly there would soon be fewer people suffering from constipation and, consequently, fewer people suffering from many other diseases.

POST DIPHTHERITIC PARALYSIS.*

By GAYLORD C. HALL, Louisville.

Mr. T. F. B., age 35 years. Referred to me the 25th of August, 1913, through the courtesy of Dr. B. J. O'Connor.

Patient had always enjoyed splendid health and had practically never been sick. Is traveling auditor for a railroad and has to use his eyes a great deal but has never experienced any difficulty in doing so. The illness under consideration began several weeks previous to the time of his visit and began while he was in the south. He returned to Louisville and was under the care of Dr. O'Connor who thought the attack suspicious of diphtheria, though no antitoxine was used and the local symptoms of the membrane formation, etc., improved with the advent of his more serious trouble. Was referred to me under the belief that probably there was an abscess deep down in the neck that was causing the distressing symptoms from which the patient suffered.

These were sharp, cutting pains, at times deep in the throat and inability to swallow either liquids or solids except after much effort. Sometimes following attempts at swallowing the material would be regurgitated; at others, having swallowed the food or liquid he would vomit very acid stomach contents. Liquid would often be projected through the nostrils due to an inability to shut off the posterior nares.

Examination showed very red and inflamed tonsils, the right side being larger and having a superficial ulceration. Cultures from this are were negative as to diphtheria bacilli.

The tissues above and behind the tonsils were searched very carefully with a small knife but no pus was located. The patient, however, expectorated large quantities of very thick,ropy, saliva and for that reason the esophagoscope was passed in order to eliminate the possibility of a stricture or a collection of pus low down. Careful examination with the esophagoscope failed to reveal either of the above conditions. General supportive treatment was instituted with local antiseptic remedies.

The patient complained of very severe pains in the throat and pit of stomach on attempts at eating and became very much depressed and apprehensive on account of his condition and his inability to swallow.

Five or six days following his first visit he suddenly complained of his eyes, chiefly for close work. He found, however, that things were blurred also for distance but that his chief disability was with close work, since he found it impossible to see the figures on the books he worked with.

*Read before the Jefferson County Medical Society.

Examination showed that he would accept in the right eye a plus .75 sphere; in the left eye plus 1 sphere, giving normal vision. Without this correction his vision was 6-9 in both eyes. For near it was necessary to add plus 1.50 sphere to the distant glasses.

September 3, 1913, examination under drops. Media clear; fundus normal; retinoscope, plus 2.50 neutralizes; accepts plus 1.50 sphere, both eyes. The glasses were ordered less .50 sphere, while for near plus 1.50 sphere was added at a post mydriatic refraction on September 7th.

The condition presented by this patient can best be explained by the assumption that he had a mild faucial diphtheria, his general robust health enabling him to check the advance of the disease though his system could not wholly assimilate the generated toxins without showing some disastrous results. This manifested itself in a partial temporary paralysis of muscles of deglutition together with the soft palate which was followed after about a week by nearly complete paralysis of the accommodation. Both of these improved under treatment, his difficulty with swallowing and with the soft palate being practically perfectly recovered when last seen. The disability with the eyes, however, has remained and considering the patient's age and his proximity to the stage of presbyopia it is the opinion of the writer that it will be permanent.

A hasty search of the literature brought out the following information. Osler regards paralysis as the most important of the sequelae, being a toxic neuritis due to absorption of the poison. It occurs in from ten to twenty per cent. of the cases. It may follow mild infections and is proportionately of more frequent occurrence in adults.

Quoting Woodhead, in 494 cases the palate was involved in 155; the ocular muscles in 197; other muscles of the body in 10; 91 of the patients died.

Dieulafoy says, in speaking of paralysis of the palate, "When the pharynx is also paralyzed, the dysphagia is so great that, in spite of every effort, the bolus cannot be properly swallowed, and food may lodge in the larynx, causing fits of suffocation, which may prove fatal."

Struempell agrees largely with Osler stating the paralysis is most important of sequella appearing two or three weeks after the throat trouble ceases and apt to follow mild cases. It attacks the soft palate by preference; the pharyngeal muscles may be hypoaesthetic at the same time, the vocal cords may be affected. There may be paralysis of the ocular muscles, those controlling the accommodation being most apt to be affected. A paralysis of the pharynx is sometimes left behind so that the

children have to be fed for weeks through an esophageal tube.

DISCUSSION.

Adolph O. Pfingst: This case should be interesting to all of us, because it represents two of the most common sequelae of diphtheria. The symptoms occurred in the order of their frequency; that is, paralysis of the throat first and the ocular muscles second.

In regard to paralysis of the muscles of the palate, I think we are often led to believe that we have a toxic paralysis when we really have a muscle inactivity, due to the inflammatory condition and edema of the palate itself. This occurs coincident with or soon after the active process while true paralysis of the throat comes on later—four to six weeks after the disease.

As to the ocular condition, I believe, as Dr. Hall, that the extrinsic muscles are most frequently affected, causing paralytic squint. I can recall several cases of convergent squint due to paralysis of the abducens muscles following diphtheria.

I differ with Dr. Hall in regard to prognosis in his case. I am inclined to believe that this man will regain the power of accommodation. I have seen several cases of post diphtheritic paralysis of the intrinsic ocular muscles and they all recovered.

One point in connection with these paralyzes has always been interesting to me; that is, the length of time the diphtheritic toxins remain in the body.

Although I have never been actively interested in deaths from anesthesia, I recall two cases where children were given anesthetics too soon after an attack of diphtheria which terminated fatally. In one of these cases, gas was the anesthetic employed, in the other chloroform. The particular point of interest in this connection is the question of how long the individual retains the poison in his system after an attack of diphtheria. In other words, how long a time should elapse after an attack of diphtheria before we can safely give the patient an anesthetic. I have looked up the subject repeatedly, but have been unable to find anything bearing upon it in the literature. I would like for Dr. Hall to refer to that point in closing. Personally, I believe that at least a year must elapse after an attack of diphtheria before an anesthetic can be administered with safety. In one of the cases of death from anesthesia mentioned above, the anesthetic was administered six months after the attack of diphtheria.

Jno. J. Moren: Dr. Hall did not report all of this man's trouble. He came to see me in October, having just returned from a trip in the South, and he had not had his clothes off for three or four days. He was unable to remove his clothing, or to feed himself, or to get on and off

a street car. He exhibited all the signs of a typical multiple neuritis. He was in my office to-day, and he has been getting along beautifully. All of his symptoms have disappeared, and he is going to work in about two weeks. His eyes are all right; at least, he made no complaint about them, and he tells me that he sits at home and reads and is able to pass away the time very nicely. He is not wearing his glasses, has no double vision, no difficulty in swallowing, or anything of that sort. All of his symptoms when he came to me were referred to the extremities. His paralysis was not complete—only partial. However, he was utterly unable to button or unbutton his clothes, orto feed himself.

Gaylord C. Hall: I have nothing in particular to add, except that, in the future, when I have any trouble with my eye patients I am going to turn them over to Dr. Moren.

FURTHER CLINICAL REPORT OF TREATMENT OF ALCOHOLISM.*

(PRESENTATION OF PATIENTS.)

By EDGAR W. STOKES, Louisville.

CASE I.

Mr. M., 51 at time he was referred to me by Dr. C. O. Neff of this city, was admitted to sanatorium September 17th, 1910, three years and four months ago; was presented before this society for the first time one year and six months ago by me.

Previous History. Habitual drinker for twenty years, had been treated for alcoholism several times, amount of alcoholic stimulants taken in twenty-four hours was one to two quarts of whiskey and many beers. Appetite very bad, would go for weeks at the time scarcely eating as much as one meal in two weeks, living almost entirely on alcoholics.

On examination patient was found to be suffering with intermittent hallucinations to a marked degree; greatly enlarged and painful liver; eyes bulging and complexion waxy. I was told by his intimate friends that he seldom noticed them on the street unless they stopped him; many of his friends thought he used some kind of drug.

Treatment first day, or 24 hours; Patient put to bed and given the following dose every three hours:

Fluid Extract Poke Rootmxv
Tincture Buck Beanmxv
Fluid Ext. Ergotmv
Fluid Ext. Gentianmxv
M. Ft. Dose No. 1. In wine glass
half full of water.

Also tinct. passiflora incarnata dram I. every every two hours, (one dose). At bed time he was given two improved c.e. pills.

Patient was given a hot bath of fifteen minutes before retiring.

Whiskey zii, given when called for on an average of once an hour. About midnight he was given sulphonal gr. xv. Rested but little first night.

Second day treatment: Same as first day with this difference: At night he was given three c.e. pills, whiskey zip about every two hours, and occasionally beer as patient called for it. Patient had a restless night sleeping only about three hours.

Third day treatment same as preceding days except tonic was given only every four hours, and while the patient did not now ask for whiskey he would drink it when proffered him, about every three hours, but complained that he could not take it well as it made him sick and nauseated him, stomach lavage in all cases when needed.

Fourth day treatment same as in preceding days, but patient now refused all forms of alcoholic stimulants, and was slightly delirious, or still suffering with delusions, but not so marked as when he came for treatment. He was given, at bed time, gr. xv of sulphonal; was asleep in about 45 minutes and slept all night. On the morning of the fifth day he awoke with mind clear and has been so every since. His general condition has constantly improved up to date. He has a complexion like a girl's, has not taken a drink in three years and four months, and tells me he has never had the slightest desire for alcoholics. He is here to-night.

CASE II.

Mr. S., engineer for the I. C. R. R., age 52 at time of treating; was admitted to the sanatorium June 23rd, 1912, referred to me by Dr. Moorman of this city. A periodical spreer, the quantity of whiskey he would drink in each 24 hours was more than a quart; drank very little beer. Would often have to remain from his work for weeks at the time, and would debauch all this time, he gave a history of being a periodical drinker for fifteen years or more; made a great deal of money and all but very little of it went for booze.

Treatment the same as in the preceding case and only varied, as in every case, to suit the demands of each individual patient. For instance, he had lost all desire for drink, by the end of the second day and had quit calling for drink. When I found it made him sick I did not give him any more. This patient was given six improved c.e. pills at bed time on first night.

Patient dismissed on the fifth day relieved, and he tells me he has been attending to business every day for the past eighteen months and has never had any desire for alcoholic stimulants of any kind, and will soon buy

*Read before the Jefferson County Medical Society.

himself a nice home with money he has saved since he returned home. He and his doctor are here to-night; ask them both.

CASE III.

Mr. J., of Cleveland, Ohio, age 32, was brought to Louisville by his father and referred to me by Dr. Henry Orendorf of this City. Was admitted to sanatorium September 18th, 1912.

Previous History: Had been suffering with delirium tremens several days before he reached Louisville; had been a hard drinker for ten years, getting on many debauches during that time; was taking more than a quart of whiskey in each 24 hours. The delirium had subsided before he reached here. He was extremely nervous, could not hold the glass to his mouth to take a drink, (the nurse had to do this for him). He lost all desire for food and was greatly nauseated when he attempted to eat or drink; he could not retain whiskey more than a few minutes; was using morphine to produce sleep.

He was dismissed, well, on the seventh day after entering the sanatorium and went home. He lost his wife from appendicitis the following week. He has passed through Louisville several times since his treatment and was to see me, and assures me each time that he has never wanted nor taken a drink. His treatment did not differ from the others, with the exception that he was given four improved e. c. pills at bed time the first three nights.

Mr. I., age 43, linotype operator on one of our large daily papers, came to the sanatorium for treatment eleven months ago.

Previous History: Always drinking while at work and off duty, for the past ten years; often too drunk to go to work; would borrow money from loan companies and take it home and tell his wife he worked for it, refused to leave home for treatment, said he didn't believe in it, but as he continued to be unable to work but only a few days each week, his wife finally persuaded him to take treatment. His treatment didn't differ from the others, he is here to-night, ask him.

CASE IV.

Mr. B., age 48, referred to me by Dr. C. E. Frey of this city, September 26th, 1913. Periodical drinker for fifteen years, drinking more than a quart of whiskey and many beers in 24 hours. His treatment did not differ from the others. He is here to-night. He was dismissed October 1st, 1913, five days after he was admitted and tells me he has never had any desire for a drink since taking treatment.

CASE V.

Mr. S., age 56, referred to me by Dr. Beverly Berry of Maceo, Ky., was admitted to sana-

torium August 20th, 1913, so drunk he did not know where he was. His physician brought him to the sanatorium.

Previous History: Had drunk whiskey practically all his life; for the past seven years he had not seen a sober day, except when he was away from home taking treatment, and had taken all, (so the doctor reported) that he ever heard of, and always returned home after taking these treatments drunk.

He had become partially insane at times, and was of great annoyance to his family, and friends, and it was with great difficulty he was persuaded to take this treatment. His general condition was very bad, he was drinking more than a quart of whiskey in 24 hours, had no appetite and seemed to subsist on alcoholics was delirious for first five days of treatment.

His case was one of the worst that ever come under the observation of the sanatorium. His mind cleared up on the fifth day, and he was dismissed on the eighth day after entering for treatment. His treatment did not differ from the others except a saline was given each morning at six o'clock.

I have a letter here from Dr. Berry which I will file with the secretary, which says: "When Mr. S. returned home he was not the same man as when he left, by any means. I see him daily. He has not taken a drink since his treatment and tells me he abhors the sight of whiskey. He is in good health every way.

CASE VI.

Mr. R., age 44; Central City, Ky., was referred to me by Dr. W. C. White of this city, March 9th, 1912. He had been drinking for thirty years. He had to be hauled home maudlin drunk every few days, but never had delirium. He did not think he could be relieved in five or six days. I agreed to let him stay as long as he wanted to, in order to satisfy himself that he was well.

This is the privilege of all patients who come to my sanatorium, and they will know when they are well without being told, but this man is about the only one who ever wanted to stay after he was well.

He stayed nine days, but had no treatment after the sixth day, and declared that he had no desire whatever for any form of alcoholic stimulants, though, before he took the treatment, he was spending \$40.00 per month for drink. I reported this case before this society eighteen months ago; he had been well only about five months at that time. His physician reported to me that he is still on the water wagon, and holding tight.

CASE VII.

Mr. A., age 43; referred to me by Dr. Bolling of this city, May 18, 1912, almost two

years ago. Periodical spree for many years. Was dismissed five days after entering sanatorium, entirely relieved of all nervousness and desire for alcoholics of which he had been taking something like a quart in twenty-four hours. His treatment was the same as others. Dr. Bolling is here to-night he will please tell us how this patient is doing. He was seen by me a few days ago and said he never has taken a drink since his treatment.

My article of eighteen months ago, published in the *JOURNAL*, describing a treatment for alcoholism, has caused a persistent demand on me for information concerning this subject. Since then I have had a much broader experience both with the treatment and patients, but this has not served to make any radical change in the treatment or the method of administering it. Many of these patients have drifted into this habit, unconscious of the fact that they were acquiring a condition which would likely terminate seriously, to their health and happiness. Often in the beginning it was only a morning toddy; then later other drinks were taken during the day, and gradually this vicious appetite and nervous desire for alcoholics appeared, which with the tenacity of a bull dog, holds its victim in its clutches, helpless. When the patient reaches this point in his drinking it ceases to be a pleasure and becomes a necessity.

It is a mistake to attempt to treat these patients at home; the alcoholic will do as he likes, not as the physician directs him to do, if he is in his own home.

As I have stated in my previous paper before this society, I believe with Hare of Philadelphia, we have no disease to deal with. Neither do I believe the tendency to consume alcoholics to be an inheritance, and with Dr. Hare I believe it to be a habit, and in many cases a habit that has produced degeneracy that permits the habit to exist.

In treating this class of patients, for convenience sake, I ignore the classifications such as: acute, sub-acute, and chronic alcoholism, as I believe this classification has little bearing on the treatment given or the results obtained, only in very exceptional cases where some organic disease has advanced to its last stage.

The classification I give is alcoholics with delirium, and alcoholics without delirium. In the delirium type I push the sedative as the case may demand; where we have no delirium no sedative is given, except the tonic mentioned from which I get some sedative effect—enough for such patients; but not a very marked sedative effect do I claim for it.

It is not my object to deal with the etiology, symptomatology and the various types of alcoholism, as time will not permit. Suffice

it to say, any sanatorium of consequence will be sure to get all kinds and all types, from the quiet unassuming to the delirious type.

One interesting point about these patients is the tremendous capacity some of them have for consuming alcohol. I saw one man drink a quart of whiskey in about 45 minutes, while he was making up his mind to take the treatment. A physician who does not see much drinking or is not constantly with the patient will scarcely believe you when you tell them of the enormous amount some put away and can continue to do so for years, and upon a physical examination show but few signs of the effects of it—usually an enlarged liver, not often cirrhotic, and some slight impairment of the digestive organs, and some patients suffer from insomnia.

In order to obtain the best results, I believe it is absolutely necessary for the patient to be kept under close observation and in an entirely different environment, made possible by placing the patient in a sanatorium with trained attendant night and day.

When a patient comes to my sanatorium he is usually in one of three conditions: He may appear to be fairly sober; he may be in a drunken stupor; or he may be delirious. He is assigned to an ordinary room without padded walls. He has an attendant—one capable of handling him without abuse. He remains in this room until he is well. If he wants a drink of whiskey (and usually does) he gets it. Remember, there is nothing so soothing to these fellows as a drink of whiskey. Of course, all the time he is calling for drinks, you can administer your medicine.

Now, coming to the vital question: What advantage has this treatment over the hypodermic method which is practiced by some of the profession? Just this—that it does away completely with the hypodermic needle and its possibility for harm. That it destroys all craving and desire for alcoholic stimulants. It corrects the nervous disorders; restores the appetite, and brings to the patient natural, restful sleep. It eliminates the crib, the padded and barred rooms. We have no such barbarous paraphernalia. It makes it no longer necessary for the patient to remain from three to six weeks in a sanatorium to get sobered up. It is no longer necessary to give hyoscine, morphine or bromides hypodermically or otherwise, thereby eliminating the possibility of their habit. Hyoscine given to alcoholics is a most dangerous procedure, even in the most skilled hands, and when continued for several days you will find the effect upon the nervous system is such that it will take your patient weeks to recuperate, and it has killed more alcoholics than it has benefited.

If you desire to make it necessary for

your patient to remain weeks at your sanatorium, hyoscine is the one agent that will do it.

Another dangerous procedure is the use of Turkish baths for hours at a time. These patients come to us over-stimulated. Now, to take these over-stimulated patients and place them in Turkish baths for hours, you make a grave mistake. The patient who comes out of this treatment alive is fortunate.

One potent factor in the treatment, is the trained attendant, and one who is reliable and competent. The patients comforts must be anticipated. I can not imagine anything more horrible for these unfortunates, than after a debauch they come to and find themselves in straight jackets, or in padded cells, and not a human being in sight for hours; perhaps famishing for water and cursed with that insatiable craving for a drink of whiskey. Dante's *Inferno* pictures no more horrible suffering. Don't ever make yourself believe that these inebriates are insane; they are human like you and know much of what goes on. I am sure you will agree with me that the humane way of treatment is the best.

I have relieved, permanently, ninety per cent. of the alcoholics that have come to me for treatment. These men you have seen to-night are living examples. The ten per cent. that is not cured, is that class of degenerates who have no incentive to do right by themselves or their friends and while relieved for the time being, will return to the old scenes of temptation and soon fall a victim again.

When a patient takes this treatment, he leaves the sanatorium with his nervous system in a normal condition, his appetite completely restored and he sleeps like a child, and with the old craving for booze entirely gone. You can trust him anywhere and not a drop of alcohol will he tamper with for he remembers the dangers of it.

When we stop to think how little medical science has contributed to the treatment of alcoholism, and how the old hypodermic treatment continues with hyoscine, morphine and other such alkaloidal products, with their harmful effects, its no wonder that a treatment of this kind creates comment and doubt in the minds of those who are loath to bid farewell to their old friend, the hypodermic syringe. Should you be in doubt, I ask of you to withhold your criticism until you have investigated this treatment and have seen more of its results like you have witnessed here to-night.

Medical science has contributed little new in the treatment of alcoholism in the last quarter of a century, until this treatment was given. Yet it has stepped forth in its mantle of glory and dealt a death blow to small-pox,

yellow-fever, malaria, diphtheria, typhoid fever and tuberculosis, and other dreaded diseases.

DISCUSSION.

Leon L. Solomon: Inasmuch as considerable prominence has recently been given by certain writers to the fact that inebriates are proverbially poor consumers of sugars and starches, I would like to ask Dr. Stokes' patient if, while he was drinking large amounts of alcohol, he consumed liberal amounts of sugars and starches—by this I mean bread, potatoes, cereals, breakfast foods and the like?

Patient: I ate breakfast foods a good deal until I lost my appetite and after that I ate very little of them. I did not eat very much sweets.

Leon L. Solomon: My reason for asking that question is that certain German authorities have for a number of years claimed that there is an insufficiency of sugars and starches in inebriates; that during the time they are drinking heavily they care very little for sugars and that, therefore, a prominent part of the treatment should be the substitution of large quantities of starches and sugars, particularly the latter. In the last issue of the *Journal of the A. M. A.*, I noticed a short report by a gentleman whose name I do not now recall, along this particular line. If this theory be true, it is natural to presume that in these individuals there would be a craving or demand on the part of the system for alcohol, since nothing supplies heat and energy in such abundance as alcohol, whereas we know that sugars and starches likewise supply heat and energy.

Jos. F. Dusch: Dr. Stokes has treated five patients of mine in the past two months and in each instance, in less than a week's time, these patients were back at work, and at the present time they are still on the water-wagon. I do not believe this treatment will put brains into a man's head, or give him an insurance policy against alcoholism, but it is certainly the most effective treatment I have ever seen.

Tetany. Prophylaxis. In pregnant and puerperal patients and after gynecologic operations, when Chvostek's sign positive and symptoms such as parasthesia of hands, itching, pains in fingers in sewing or writing, and muscular weakness or stiffness present, give calcium chloride in following form: *Calcii chloridi* (puriss) *zv* (20 Gm.); *syrupi menthae piperitae* (vel *syrupi rubi idaei*) *zij* (60 Gm.); *aqua destillatae*, *zx* (300 Gm). Dose of calcium chloride to be carried as high as 75 to 90 grains (5 to 6 Gm.) a day in adults and in newborn infants, to 15 grain (1Gm.).—Kehrer.

Toxemia of Pregnancy. Treatment. Free administration of oxygen seemed useful in a number of cases, some severe. May be given either by inhalation or subcutaneously.—Shears

CESAREAN SECTION, NAEGELE PELVIS.*

(REPORT OF CASE.)

By J. HUNTER PEAK, Louisville.

We have in DeLee's new book on obstetrics, a very fine description and illustration of a Naegele pelvis. One of the most typical of this class of pelvis—the obliquely contracted—is that due to disease of the sacro-iliac joint and the neighboring portions of the ilium and the sacrum. F. C. Naegele, in 1839, first described it, having collected 37 cases, but it was mentioned by various obstetric writers long before this, and Naegele found one in an Egyptian mummy.

All the findings of oblique contraction, and those due to exaggerated pressure of one thigh, are present in this pelvis, and since one wing of the sacrum is often atrophic, aplastic, or even missing, in addition to the distortion, actual reduction in the size of half of the pelvis is present, and, what is important from a clinical point of view, the narrowing of the pelvic lumen extends down to the very outlet. The innominate bone of the affected side is dislocated upward and backward, while the pubic joint is pushed to the healthy side. The linea terminalis of the healthy side is given an exaggerated curve, being straightened on the diseased side. In nearly all cases, a firm synostosis is found in the affected sacro-iliac pelvis and a sharp polemic was waged among the students of this pelvis as to whether this was primary or secondary. Naegele believed that, most likely, a primary congenital deformity of the joint existed and he did not deny that the entire change could be due to acquired disease. Hohl proved that the wing of the sacrum could be congenitally absent, but other specimens were exhibited which showed that characteristically deformed pelvis could be produced by acquired disease of the sacro-iliac joint. Breus and Kolisko find traces of ostitis in all so-called Naegele pelvis, and insist that the deformity is always due to arthritis, caries, or trauma of the sacro-iliac synchondrosis or other portions of the pelvis. Pelvis with congenital defects of the wings of the sacrum exist, but they do not produce such great deformity of the inlet nor do they show contraction of the whole length of the pelvic canal, as do these pelvis with disease of the sacro-iliac joints. Here the sacral and iliac portions are wasted, absorbed, and ankylosed. If the disease occurs in early life, the developmental portions—the ossification centers—are destroyed, and growth of the bone, of course, is rendered impossible. Now come the mechanical factors, the pressure of the trunk, the

lateral pressure of the femur, and the characteristic changes are brought about.

DIAGNOSIS.

It is usually easy to discover an obliquely distorted pelvis, but not so easy to decide on the actual pathology of it, nor on the degree of spacial contraction. Attention may be called to the deformity by an even, limping gait, a scoliosis or by the unequal length of the legs. Scars from old sinuses point to disease of the hip or sacro-iliac joints, and the history will usually show some infantile disease or injury. Spinal paralysis, rachitis, habit scoliosis, coxitis, gonitis, amputation of the leg, and spina bifida, have been the causes of the asymmetry in the cases which came under observation, and it was possible to decide in all of them how the deformity was produced. In addition to the scoliosis and the apparent shortening of the leg, one will notice the hip of one side higher and retroposed, the pubic region displaced to one side, and the hair-line oblique. The rhomboid of Michealis is asymmetric or tilted, and the gluteal fold lower on one side. Palpation of the bones confirms the above findings, and, in addition, discovers that the ischial tuberosity of one side is higher and the ramus of the pubis has a different direction on that side. Examining first with one hand and then with the other, and the fact that one-half of the pelvis is less roomy. External measurements from corresponding points may show a discrepancy between the two sides, but it is almost impossible to diagnose the kind of a pelvis from them. By excluding all the other varieties we may make a diagnosis of a Naegele pelvis, and this may be confirmed by finding the corresponding half of the rhomboid of Michealis reduced in size, the spine of the last lumbar vertebra lying close to the postero-superior spine of the ilium. On internal examination the corresponding half of the pelvis is very small and the encroachment of the ischium on the lumen persists even to the outlet. Ankylosis of the sacro-iliac joints may be palpated by the fingers per vaginam or rectum if exostosis and pericapsular thickening exist.

After the fact of pelvic distortion has been discovered, the degree of pelvic contraction must be determined.

A few cases of dislocation of the ilium upon the sacrum are on record. It is easily diagnosed if its existence is suspected. It causes persistent backache, difficulty in locomotion, and, if it occurs in labor, occasional dystocia.

September 15th, last, Dr. Melton called me to meet him in consultation to see Mrs. T. R., age 25 years, who was in her first labor.

Dr. Melton had made a diagnosis of Naegele's pelvis and at the time of telephoning

*Read before the Jefferson County Medical Society.

said, "I am sure that a Cesarean section will be necessary."

Examination revealed the history "that she had been in labor thirty-six hours." The attending physician said, he thought that he would wait until complete dilatation cervicæ had taken place just to see if a normal labor could be finished. Full dilatation was accomplished in fifteen hours; then strong pains continued for eighteen hours without any progress being made in the descent of the head. After I saw her normal pains continued up to the time of operation with no appreciable results. The waters had ruptured some hours before I saw her.

Further history was obtained that the patient had suffered from left hip-joint disease since she was five years old. The left leg was flexed at the body and the thigh was lying across the pubes with the hip-joint firmly ankylosed. The left leg was not nearly normal in length and very poorly developed. The left os-innominatum was not nearly so well developed as the right. The external genitals were normal but encroached upon by the left thigh. And the wonder, to those of us in attendance was, that she could have become pregnant at all for the position of the left thigh did seem to preclude the possibility of coitus.

Digital examination was made with astonishing results. The ischium on the left was displaced into the pelvic floor and could be felt immediately the finger was placed in the vagina. The whole bony pelvis on the left was displaced toward the median line decreasing the bony outlet to about two and one-half to three inches laterally the antero posterior diameter was quite deep.

The diagnosis made by Dr. Melton was concurred in at once and the patient was sent to the hospital, then prepared for Cesarean section. Viability of the child was apparent.

Able assisted by Drs. Onderdonk, Casper and Yeatts, we quickly did the ordinary operation. The placenta was anteriorly attached and was torn through. An eight pound baby perfectly developed was delivered and given to the nurse who soon had the little fellow crying lustily. After the removal of the after-birth, the uterus contracted nicely and all hemorrhage was controlled by closing the uterine wound. Operation finished and patient put to bed in about forty minutes in good condition. Mother and babe went home in fine shape on the eighteenth day. Both are still living and well.

Sections and ligations of both tubes were accomplished for obvious reasons at the request of the mother.

DISCUSSION:

Edward Speidel: Naegele's pelvis is supposed to be a very rare condition. Judging from the picture passed around, the patient did not show marked deformity at the superior strait. A typical Naegele's pelvis would show one side of the pelvis straight and the other side excessively curved. This picture shows considerable curve on one side and a very full curve on the other. It is probable, in this case, that the difficulty in delivery would have been encountered at the outlet of the pelvis. It must be remembered, in these cases of deformed pelvis, that the pelvis is tilted to one side, and, in consequence, the uterus lies more to the left or right than usual. Therefore, when labor sets in the uterus must be directed toward the median line in order to direct the head into the proper channel. Another thing to consider when the head will not enter the superior strait is that by the use of the Walcher position a certain amount of space can be secured, and by this means the head may be made to engage.

In many cases of deformed pelvis, we are greatly astonished to find that a child of ordinary size will pass through a pelvis which we could hardly believe would permit the passage of a child. Therefore, it seems to me that, before resorting to Cesarean section in cases of this kind, a careful examination should be made with the gloved hand, under surgical anesthesia to determine the capacity of the pelvis. Then, if possible, the head should be guided into the pelvic cavity, and possibly by a high forceps application the head may be brought down and delivery accomplished in a normal way. If the introduction of the hand does not disclose sufficient room then, of course, Cesarean section is indicated.

J. Garland Sherrill: I must take issue with what Dr. Speidel has just said in regard to the high forceps operation. In any case of contracted pelvis where the head does not readily engage, Cesarean section is much safer than the high forceps operation. Where the contraction of the pelvis is such that the attendant believes that delivery cannot be accomplished in the normal way, I think Cesarean section is indicated, and the operation should not be delayed until the woman is exhausted. Therefore, I would urge early Cesarean section before many examinations have been made and before the woman has become exhausted by attempts at delivery.

J. Hunter Peak, (Closing): Cases of contracted pelvis may be handled in any one of a number of different ways, when they are not exaggerated as this one was. In the first place, if the contraction is not too great, and the attendant has been engaged beforehand and understands the conditions, premature labor may be induced, and in that way save both the mother and child. So far as forceps delivery is concerned, it was impossible in this case. When the gloved hand was

introduced into the vagina it immediately came in contact with the deformity of the ischium, and there was absolutely no chance for that child, which was a well-developed eight pound baby, to be delivered at full term. The only reason I was not called into the case earlier was because the attending physician desired to see first whether delivery could be accomplished in the normal way.

If you will observe the pictures of Naegele's pelvis in the various books, you will find that this illustration comes as near to fitting every detail as any case I have ever seen.

TUBERCULOUS MENINGITIS.*

By J. A. O. BRENNAN, Louisville.

The sudden onset of this disease in a supposedly healthy individual with symptoms at the beginning not referable to the brain cause me to report this case.

Mr. C., white, age 42, occupation, clerk, mother still lives and enjoys excellent health, and his sister is also in good health. Father died of tuberculosis when quite a young man, never sick except when he contracted typhoid fever about one year ago and then he was confined to his apartment and hospital for nine weeks. He seemed to have recovered fully and about four months ago, developed a pleurisy of the right side which lasted some three weeks, but he finally entirely recovered from it. On about the last of November he called at my office although he had been suffering for some days previous, with great pain along the course of the right sciatic nerve, and everything that I could possibly do to relieve him was of no avail. Mobility of leg was good, and he had for some days after I first saw him no fever although he continued to suffer. He was, at the end of a week, unable to walk on account of great pain, but could move his leg in all directions while in bed with no discomfort. He vomited only a couple of times and that was the day before he entered the infirmary and the evening he was admitted. He was slightly delirious and had some fever before he went to the infirmary. Urine negative blood showed Widal positive. Wassermann, negative of both blood and spinal fluid. Spinal fluid found to be in normal condition. His mind cleared up for a while but it was not lasting. Aphasia ensued and pupils up to this time were equal and responded to light promptly, and all reflexes were normal. A few days later ptosis of the left eye ensued with unequal pupils and patella reflexes increased, ankle clonus slightly positive, Kernig's sign positive, also slight rigidity of neck, which later became more pronounced. Constant muttering and facial movements with arms and legs in con-

tinual motion towards the last. Dr. White very kindly examined the eyes and reported the following:

"Was called to see Mr. C., by Dr. Brennan on Friday. Found patient comatose, ptosis of left lid, semi-dilated pupil on that side; right eye pupil reacted to light slightly.

"Ophthalmoscope showed a neuritis, and the typical tubercles all over the retina. This in left eye.

"Right showed a beginning neuritis and numerous tubercles all over the retina; not so thoroughly developed but still they showed quite plainly. Saw the patient again on Saturday with Dr. Green, who was able to make out the tubercles. At that time there was not much change in the neuritis, but the tubercles were plainly visible; very little vascular condition; no tension at any time."

In closing I wish to thank Dr. Jno. Allen for his kind assistance in this case.

DISCUSSION.

Asa W. Nickell: This is too valuable a report to pass without discussion. It is one disease in the treatment of which the medical profession has, unfortunately, made practically no advance.

About 150 years ago Robert Whytt did the first work along this line in Edinburgh, and subsequently Dr. Gerhård, of Philadelphia, who made a special study of post-mortem work in children in the pediatric institutions of Paris, has done more to place this condition on a firm anatomical and clinical basis than any subsequent author.

There are some things rather peculiar about Dr. Brennan's case. Most of these cases that I have seen have been in children. It is rare under the first year, and most common between the second and fifth years. In the majority of cases, old tubercular foci will be found in the bronchial and mesenteric glands, or perhaps in the middle ear or urinary organs.

I would like to speak of the pathological picture observed in some postmortem work in which I have had some experience. After one thoroughly understands the pathology, the symptoms are of course better accounted for and more easily understood.

We noticed, in post-mortem work, that there was most frequently involvement of the meninges, particularly at the base of the brain, from which we get the term basilar meningitis. There may be slight turbidity and matting of the membranes, more commonly a turbid exudate, fibrino-purulent in character, which covers the structures at the base, surrounds the nerves, and extends into the Sylvian fissures. We noticed also considerable inflammation about the optic chiasm and along the Sylvian fissures and the interpeduncular space. Upon removing the arteries in the anterior and posterior perforated spaces, and look-

*Read before the Jefferson County Medical Society.

ing at them with a low objective, very often we found nodular tubercles present when not elsewhere. The lateral ventricles contained turbid material and the ependyma is softened, and the septum lucidum and fornix broken down. Also, the convolutions were flattened and the sulci obliterated. There is a tubercular endarteritis with the formation of intimal tubercles, due to implantation of the bacilli from the blood.

Practically all authors agree as to the heart condition in the first and second stages; it is usually low and very irregular. In the last stage of the disease the heart becomes weaker and the pulse rate becomes more frequent.

As to the ocular symptoms, in the early part of the disease the pupils are contracted, while in the latter stage they become dilated and are more irregular. In these cases that I have seen, of ocular palsies, the third nerve is most frequently affected. Associated with this we frequently see facial paralysis, paralysis of the limbs, and sometimes the hypoglossal nerve on the opposite side, which would indicate a lesion about the lateral and internal part of the crus.

Gaylord C. Hall: I would like to call attention to one point in connection with the ophthalmoscopic report. By "retinal tuberculosis" I presume is meant choroidal tuberculosis; retinal tuberculosis is practically unknown.

FOREIGN BODY IN THE EYE REMOVED BY MAGNET*

(REPORT OF CASE).

By J. M. RAY, Louisville.

This young man came to me on June 24th, 1913, with the following history:

On the 31st of May, 1912, a little over a year before I saw him, he had received an injury to his left eye while working on a punching machine in a machine shop, a piece of metal striking him in that eye. The sight of the eye was immediately affected. He was examined by a doctor, but the question whether or not there was anything in the eye was not definitely settled. The ordinary routine treatment was carried out, the inflammation subsided, the sight remained good and the man was satisfied. This state of affairs continued until October, 1912, when he saw Dr. Lederman, who examined him and found the sight in that eye to be 20-50. Although the eye was free from inflammation at the time, Dr. Lederman concluded, from his examination, that there was something in it. However, no further steps were taken.

I saw the patient on June 24th, 1913, thirteen months after the injury had been received. He had a convergent squint, in the right eye. The vision in the injured eye was 20-100; in the squinting eye, 5-200. He was suf-

fering from a low grade of iritis in the left eye. The metal had been in the eye so long that it had begun to rust, causing the peculiar stain known as siderosis. I examined the eye and discovered a mass on the nasal side, slightly below the horizontal meridian, in front of the equator of the eye. I could not distinctly make out a foreign body, but from the history of the case I was convinced that one was present. I told him the only thing to be done was to make an incision and endeavor to remove the foreign body with a magnet, but that the chances for a good result were not favorable. He declined the risk, as the left eye was at that time his best seeing eye. I saw him no more until September, 1913, when he returned to me with a fresh attack of iritis, the pupil being firmly bound down to the lens, a little exudate in the pupil, and the vision in that eye reduced to counting fingers. The right eye having become the better one, I explained to him the danger of sympathetic ophthalmia from the presence of the foreign body, causing frequently recurring attacks of iritis, and urged upon him either the removal of the left eye or an attempt to remove the foreign body.

As a preliminary to the operation I had an X-ray picture made, which was done by Dr. Keith, a metal cap, as suggested by Dr. Fox of Philadelphia, being inserted into the eye and held in place by the lid while the X-ray were applied. The picture showed the location of the foreign body with respect to the metal cap, and corresponded exactly with the location I had previously determined by means of the ophthalmoscope. I sent the man to the infirmary and, under local anesthesia, dissected back a flap of the conjunctiva, opened the sclera with a Bier's knife, applied a magnet to the lips of the wound and withdrew this piece of metal. It came out very easily and I was not forced to introduce the tip of the magnet into the wound. I then brought the conjunctiva over the scleral wound and sutured it.

I did this operation on the 7th day of October. Slight reaction followed but it soon subsided and the wound healed rapidly. He had no further attacks of iritis, although prior to the operation he had suffered recurring attacks every few weeks. I believe the eye will get better as time goes on. The vision in the injured eye is now about 2-200, nearly as good as in the other eye. The brown discoloration in the eye is disappearing and the chances are that his vision will increase as the hemorrhage disappears from the vitreous.

DISCUSSION.

Gaylord C. Hall: I wish to congratulate Dr. Ray upon the result he has obtained in this case.

*Read before the Jefferson County Medical Society.

Penetrating injuries of the eye come under three classifications: (1) those in which the eye is practically destroyed at the time of the injury and in which enucleation is, of course, the indicated procedure; (2) those cases which it is easily within the surgical experience of almost any one to relieve, and (3) those cases in which there is grave doubt as to the proper method of procedure. In my judgment, Dr. Ray's case would come under the latter classification. One must consider two things in dealing with such injuries. First, the disability incident to treating the patient along conservative lines. Of course, it is desirable to remove the foreign body at once, if possible; but where the patient is a married man, with a family dependent upon him, we should explain to him that, even though the foreign body is successfully removed, it means a long period of disability, possibly weeks or months before he can return to work; while, on the other hand, if we adopt the radical procedure and take the eye out, he will have irremediably lost the vision of an eye that might have been saved had he undergone the long period of disability required. With this explanation before him, the question must be decided by the patient himself. Theoretically, it is always desirable to save the eye, because it is practically impossible to tell just how much recovery one will have in a case of this kind. Sometimes the amount of vision preserved after proper treatment exceeds our expectations. Therefore, I think it is always preferable, where possible to treat these cases along conservative lines and save for the patient as much vision as possible. This is borne out by Dr. Ray's case because, in spite of the length of time the foreign body remained in the eye, the recurring attacks of iritis and the danger of sympathetic ophthalmia, he has been able to obtain a very good result. I believe this eye will remain quiescent now and that eventually the patient will have as good or better vision in it as in the other eye.

Dr. Ray's conduct of the case was admirable. I am sure that, had he not succeeded in drawing out the foreign body with the magnet, he would have employed the method advocated by Dr. Jackson at a former meeting of the American Medical Association in cases where the foreign body has become encysted by long residence back of the lens. Jackson attaches to the magnet a pair of scissors, with which he reaches through the sclera and cuts the membrane in two, thus freeing the foreign body which jumps to the scissors and is withdrawn. This is only necessary in cases where the foreign body, by long residence in the eye-ball has become encysted, and cannot respond to the magnet until freed of the encysting membrane.

CHORIONIC DEGENERATION.

By WILLIAM A. JENKINS, Louisville.

Mrs. G., white, age 28, married seven years.

Family History. Aside from a marked neurotic tendency the family history is good. They are all nervous. She has a sister who has had some pelvic trouble with an operation for the same. Mrs. G. has had the ordinary diseases of childhood. Her girlhood and young womanhood was otherwise uneventful. Menstruation was established at the age of 14. Regular in every respect. Last menstruation September 27th, 1914. Felt uncomfortable and went to the doctor many times since then. February 6th jumped off a car and ran a square. Had a bad night that night, on the 7th a slight bloody discharge appeared; better next day; remained in bed; symptoms about the same for several days. Saturday night, 1 A. M., I was called; found her in pain, some discharge present. (bright red blood) no temperature, normal pulse, no odor. Gave hypodermic of morphine and atropine, applied hot water bag, left a dose of chloral to be taken later, saw her again at 8 A. M. Sunday morning, no change, saw her again at 12 o'clock. Labor pains present. Cleaned out an hydatidiform mole, sent for Dr. Allen, Carretage.

THE INTRASPINOUS INJECTION OF SALVARSANIZED BLOOD SERUM IN SYPHILITIC AFFECTIONS OF THE CENTRAL NERVOUS SYSTEM.*

By CHAS. W. JEFFERSON, Louisville.

We know, quite well, that after years of treatment for syphilis, by our best physicians and in those cases where our patient has aided in every possible way, that syphilitic manifestations of the central nervous system develop. When these cases go on to a paresis or tabes dorsalis develops, and practically no result can be obtained from medication by mercury, they are referred to the nerve specialist, who because of his inability to attack the disease with drugs, puts them through a course of gymnastics and electrical currents and the spirochaeta has been allowed to thrive on with daily damage to the central nervous system, with a gradual increase of all clinical symptoms, and our authors on mental and nervous diseases give them from two to fifteen years to live a miserable existence.

Recently Doctors Swift and Ellis have devised a means by which the spirochaeta pallida may be killed in his stronghold, the subarachnoid lymph space, and thereby arrest

*Read before the Jefferson County Medical Society.

the prognosis of syphilitic affections in this locality.

The spirochaeta pallida, a positive Wasserman reaction, a pleocytosis and an increase in globulins having been found in the cerebro-spinal fluid of the so called parasyphilitic nervous diseases, thoroughly demonstrates the fact that an active syphilis exists, and strange to say that when the blood of these patients has been made negative by treatment, these conditions of the cerebro-spinal fluid still exists. Medication not reaching this locality in sufficient strength to kill the organism.

Doctors Swift and Ellis after finding these conditions to be present started a series of experiments on monkeys. Small doses of salvarsan and neosalvarsan were injected into the cerebro-spinal canal but were found to be entirely too irritating. Then dilutions of salvarsanized blood serum in normal saline were injected. The irritating properties were in this way judged by using the cell count of the cerebro-spinal fluid as an indicator. It was shown that a salvarsanized blood serum has a decided spirochaeticidal action.

To review briefly the meningeal spaces and the arrangement of the meningeal membranes is important in connection with intra-spinal injections. First the dura mater is adhered to the bone within the skull. Second is the arachnoid which lies between the dura and the pia mater. Third, the pia mater covers the surface of the brain and cord. Between the arachnoid and the pia lies the sub-arachnoid space which is in free communication throughout the brain and cord. This space contains the cerebrospinal fluid, enclosing the brain and cord on all sides, and the fluid in the cord is in free communication with that of the brain. Through the foramen of Magendi and Luschka, the fluid is in communication with the ventricles of the brain. In the sub-arachnoid space are the Pacchionian bodies, which are situated chiefly along the sinuses. They are the protrusion of the arachnoid membrane into the interior of a sinus. The cerebro spinal fluid is brought in close contact with the venous blood through these bodies, there being only a thin layer of dura and arachnoid between. The cerebro-spinal fluid is a clear thin liquid specific gravity 1.007 to 1.008. Normally it contains only traces of proteins. Figures as to the amount of this fluid vary from 60 to 80 c.c..

It has been shown that after withdrawal of any amount of this fluid it is rapidly replaced, and that if normal saline solution be injected without removal of any of the fluid, it is excreted with great rapidity. There seems to be a tendency for this fluid to contain nothing but its own constituents, and if drugs are given and reach this fluid they are very rap-

idly excreted. This is probably the reason for failures to reach and kill infections of the cord by internal medication, or medication in the blood stream.

Why the cerebro-spinal does not readily take up drugs when even given in the blood stream, and rapidly eliminates whatever is taken up, has not as yet been determined. Some of the articles which have recently been written on this subject claim the cord has a very poor blood supply, but this is certainly not true. There are of course areas which have not an abundant blood supply, but even these areas are surrounded by a capillary network.

The blood contains normally serum albumen, sugar, urea, etc., but these are rarely found in the cerebro-spinal fluid. Why then should salvarsan be taken up when administered in the blood stream. Flexner recognized this fact some years ago and introduced the direct injection of serum into the sub-arachnoid space for meningitis.

The intra-cranial pressure has been measured by boring a hole in the skull, dividing the dura and connecting the underlying space with a manometer. The pressure is always the same as that within the venous sinuses. The large veins are surrounded by the cerebro-spinal fluid, which would necessitate an equilibrium of pressure. So with the intra spinal injection of any substance where no fluid is withdrawn, would in itself tend to rapidly do away with the injected fluid. The normal intra-cranial pressure is between 50 and 60 mm. mercury.

Another point in cases of trauma where fractures of the skull exist and the fluid escapes it has been shown that large quantities, as much as 200 c.c. in a day is rapidly formed. This should do away with the fear of removing too much fluid within certain limits, before injection of any serum.

The case I am to report is one of tabes dorsalis, who came to me for treatment several months ago with the following symptoms and history.

Mr. F. S. C., age 37 years. Has had the usual diseases of childhood. Gonorrhoea ten years. The syphilis was a severe type. In January, 1913, he noticed he was getting extremely nervous, then the soles of his feet became numb also the ends of his fingers were slightly numb. This was followed by a stiffness of his legs and thighs. In March, 1913 he noticed a marked unsteadiness in his gait, was unable to walk in the dark without falling. He at that time consulted his physician who made a diagnosis of locomotor ataxia. He was put on mercury, chiefly inunctions, which he continued until I saw him, with a rapid increase in all clinical symptoms. On

examination, October 10th, 1913, findings were as follows:

Loss of knee jerk, ankle tendon reflex lost. Loss of sexual power, well-marked ataxia, unable to walk without aid of cane, great difficulty in arising after sitting down. Numbness in feet and hands. At times profound weariness, slight hypotonia. Tottered with eyes closed. Unable to touch nose with finger while the eyes were closed. Girdle symptom marked. The peculiar feature about the symptoms were that the patient had no lightning pains. Was referred to Dr. J. F. Simpson for examination of eyes. His report is as follows:

Vision in right eye 20-20 minus.

Vision in left eye 20-20 plus.

Pupils.—right eye slightly larger than normal. Left eye about normal.

Both react to light slightly, sluggish for distance. Disc whitened more in right eye than left.

TREATMENT.

1913.

Oct. 16.—0.6 gm. salvarsan intravenous.

Oct. 24.—One-half gr. salicylate of mercury, intramuscular.

Oct. 31.—Three-fourths gr. salicylate of mercury, intramuscular.

Nov. 7.—One grain salicylate of mercury, intramuscular.

Nov. 14.—One grain salicylate of mercury, intramuscular.

Nov. 21.—One and one-fourth gr. salicylate of mercury, intramuscular.

Nov. 28.—One and one-half gr. salicylate of mercury, intramuscular.

Dec. 3.—One and one-half gr. salicylate of mercury, intramuscular.

Dec. 6.—0.6 gm. salvarsan, intravenous.

Dec. 12.—One-half grain salicylate of mercury, intramuscular.

Dec. 19.—Three-fourths gr. salicylate of mercury, intramuscular.

Dec. 24.—One grain salicylate of mercury, intramuscular.

Dec. 30.—One and one-fourth gr. salicylate of mercury, intramuscular.

Potassium iodid was given at intervals in small doses.

(Blood Negative Wassermann).

1914.

Jan. 10.—0.3 gm. salvarsan, intravenous.

Jan. 11.—30 c.c. salvarsan blood serum, intraspinal.

Jan. 30.—0.5 gm. salvarsan, intravenous.

Jan. 31.—30 c.c. salvarsanized blood serum, intraspinal.

METHOD OF GIVING INTRA-SPINOUS SALVARSANIZED BLOOD SERUM.

First intravenous salvarsan was administered one hour later 40 c.c. blood withdrawn.

This was put on ice for 24 hours and the serum allowed to separate. Serum drawn off and centrifugalized. 12 c.c. serum mixed with 18 c.c. normal saline, solution. This making a 40 per cent salvarsanized blood serum. This serum is heated to 56 degrees centigrade for 30 minutes, which activates the salvarsan. About 22 c.c. cerebro-spinal fluid was withdrawn after lumbar puncture was done. Then the 30 c.c. blood serum slowly injected by gravity. This I believe the dangerous part of the administration. The fluid should be very slowly withdrawn. I wish to state that the needle used in doing the lumbar puncture was the one devised by Dr. Donald Clark while at the meningitis hospital, and I consider it very excellent for this purpose.

Symptoms following first intraspinal injection were none until five hours later, when patient had marked reaction. Pain in head, thighs and legs. Some twitching of limbs. Complained of vertigo. These symptoms were controlled by codein. The temperature ranged from 96 degrees to 100 degrees reaching highest point on following day. Pulse and respiration were practically normal. For several days following patient was extremely drowsy, had singing in ears but these symptoms gradually wore off. The laboratory work on this case was done by Dr. L. K. Bauldauf.

Cerebro spinal fluid before intraspinal.

One-half c.c. cerebrospinal fluid.

Wasserman Noguchi++

Globulins ++

Pleocytosis, 72 cells.

Cerebrospinal fluid at time of second intraspinal:

Wassermann Noguchi +

Globulins ++

Pleocytosis, 60 cells.

Symptoms following second intraspinal were much more severe than first. Morphine hyperdromatically was required to control pain in legs and head. Temperature ranged from 97 degrees to 101 degrees. Pain and temperature starting two hours after intraspinal. Nothing unusual about pulse and respiration. These symptoms gradually subsided.

At the end of the first week after first intraspinal all the symptoms of locomotor ataxia began to improve. At the end of second week patient's ataxia had improved to such an extent that he was able to walk without cane. He has gained in weight. The nervous symptoms are much improved.

In conclusion will say that I am much pleased with this treatment, and believe much can be done for this class of patients in the future. These injections are given every two

weeks until the cerebro-spinal fluid is negative to a Wassermann, until the globulins are normal, and until the cell count is not over five. Of course we cannot expect to repair damage to the central nervous system which has taken place before treatment, but the process is very probably arrested and no further progress of the disease has taken place in the cases where this treatment has been followed.

Would urge the physicians who have cases along this line, to give this treatment, as I believe it a great step forward in therapeutics.

I wish to thank Doctors David Morton and Leon Baldauf for their much appreciated assistance and interest in this case.

MEDICAL ETHICS.*

By J. W. ELLIS, Masonville.

Your committee on program requested me to furnish a short paper for this meeting on medical ethics, a theme that has been written upon and discussed in every medical society since the days when Esculapius, with the serpent coiled around his staff as the insignia of rejuvenescence, as well as the symbol of health and preventive medicine, went forth to fight the physicians' greatest antagonist—death. Everything has long ago been said that could be well said and that would be of benefit and profit to physicians on this subject. Our fathers in medicine have formulated and handed down to us certain fixed rules and regulations for our guidance, with the view of enabling physicians everywhere, at all times and under all circumstances to maintain the highest standards of conduct in their association with and relationship to each other. The Code of Ethics we have today is old and gray, and is the accumulated wisdom of the Centuries and a physician can scarcely go wrong when guided by its beautiful and beneficent teachings.

Webster says that Ethics is the science that treats of the principles of human morality and duty—moral philosophy—morals. Medical ethics then is the science that treats of the principles of medical morality. When one reflects upon the object, end and aim of the profession of medicine, its high and lofty ideals, its altruism and unselfish teaching, the pure motives and unsullied character one must necessarily have before one can become a true disciple of medicine, one wonders why a code of ethics should be necessary at all. Medicine is now and has always been regarded as one of the greatest of the three liberal professions. That medicine suffers no disparagement when compared with other professions, no one will deny. Cartesius, the

great philosopher, emphasized his convictions that if man could be ennobled at all that it would be accomplished by medicine alone. The great Hippocrates said, that whatever belonged to the domain of wisdom was contained in medicine. When the greatest pathologist the world has ever produced, Rudolph Virchow, said his aim is knowledge of man and his improvement, but reflected the sentiment that has actuated every true and loyal physician from the earliest dawn of medicine down through all the ages.

Pope in his incomparable essay on man evidently drew his inspiration from the medical profession when he said "Know then this truth, presume not God to sear. The proper study of mankind, is man."

All that has ever been said or written on medical morals that is worth while can be summed up, and is contained in that glorious old-fashioned rule, as laid down by Confucious and quoted by our Savior when he said, "Do unto another what you would that he should do unto you." The question at once arises: Can one always do as one would be done by? I unhesitatingly answer, yes. Any one with sufficient learning, knowledge and wisdom to minister to the ailments of afflicted and suffering humanity, surely knows enough to treat his fellow physician as he would be treated. No doctor is so stupid and dull as not to know that when he is called as consultant it is wrong and wronging to say in the presence of the laity, that he was called in too late, or that he has had many such cases and no deaths, or that if certain remedies had been given the patient would long ago have been well, or to shake his head and look wise as an owl, or to suggest questionable changes in attending physician's prescriptions, as not to know that he is laying the foundation for the dismissal of the regular attendant, upon which the laity will often times hastily build. "Alas! and alack," the day when doctors will descend to such nefarious practices. In a long and eventful career in medicine, extending over a period of more than forty years I have come in contact with but few of these despicable characters, and when I did their tongues were more deadly to my reputation as a physician than would have been the fangs of the adder or the fragrance of opus to my body. Shame on such conduct, it is wholly unworthy of any man, much less one claiming to belong to a noble profession. To the everlasting credit of the medical profession and its devoted devotees when these dark characters are once discovered they are soon eliminated from the ranks of all true doctors.

Strange to say the laity has never shown the medical profession that consideration justly its due. They have generally regarded medicine a trade, instead of the high and

*Read before the Daviess County Medical Society.

lofty profession it is—whose members are continuously trying to protect the people from the ravages of disease, and to strengthen against the assaults of death, and often rescuing them from the criminal folly of their own misdoings. Great business concerns that employ vast numbers of laborers often organize them into one body and promise them cheap medical service, and have the audacity to fix the fee, which is far below what it should in justice be, and then ask some physician to accept it. Life insurance companies, whose very existence depends upon the learning and skill of the physicians, have always and are still trying to place a low value on the physician's services by offering him eases at half price. The innumerable fraternal organizations with which our country abounds are continually driving these sharp bargains with physicians and are from day to day and from year to year the beneficiaries of the hard labor, skill and learning of the physician—the only man on earth suitably equipped to render the service absolutely required for his well being and the price for such service is fixed by the other fellow at about half its real value. These agencies that insist on placing a value on the physician's skill are wholly incompetent and when they do, it is always from mercenary motives. They have no more right to fix the price on a physician's services than the physician has to fix a price on their products, or the sweat of their faces, which he is never allowed to do. Physicians accepting these places do themselves an injustice as well as the medical profession at large.

IS THE DEMAND FOR THE SERVICES OF THE REGULAR PRACTITIONER GROWING LESS?*

By W. J. SHACKLETTE, Nolin.

All of us, no doubt, have listened to the stories of the good old doctors who lived and toiled in the days of our fathers, how that on horseback and with saddle bags astride they plod their weary way through pouring rains and blinding snows; over rocky hills and through marshy vales; through the stinging cold and stifling heat, day after day and night after night. That for weeks in and weeks out they would only get home for an occasional stop to replenish their stock of powders and extracts, and change horses then to hurry on to a long due call and on from one home of sickness to another.

In that day when people practiced more intense housing, when sanitation was little known and less practiced, it was not uncommon to find several or perhaps all of a family

ill from the same disease at the same time. In those days, one physician would often see more patients in their homes in a week than we will see now in a month.

We do not need to call to witness the experience of the doctor of the past generation to bear evidence to such conditions in practice. There are many doctors with us yet who can tell of some years of such experience and similar conditions.

I have talked with a number of physicians now living, who practiced in the eighties and early nineties and all relate a story of strenuous work. Even ten years ago the country doctor was called to visit, at least twenty-five per cent. more patients than at the present time. It was not uncommon for the older physician to see twenty-five or more patients in their homes in a day, and day after day. While the population has increased more than two fold throughout this section of the country, the same number of active doctors that attended to the practice thirty years ago, could to-day, easily make all the resident calls. The condition of which I speak has reference more especially to rural practice, perhaps being less applicable to city conditions. While the number of families in a given territory are much more numerous than formerly, the number of resident calls per family have greatly decreased. There are various causes that have contributed to this changed condition. Many new discoveries have been made as to the origin and spread of disease that has given great impetus to preventive medicine. Where, in former years, epidemics were frequent, widespread and of long duration, now they are rare, very local and of short duration.

Then, where the doctor was called upon to treat a large per cent. of cases of diarrhea, dysentery and allied affections, running courses of from two weeks to two months or more, now there is a very small per cent. of such cases and nearly all run very brief courses.

Typhoid epidemics once so prevalent throughout the summer and fall season, requiring a great deal of the doctor's time, are now rare indeed and the course of the disease is very much modified and shortened. Malarial affections once a very fruitful source of practice, now demands very little attention from the physician.

Other contagious and infectious diseases once so prevalent and demanding so much of the doctor's time, are now much less frequent, shorter in duration and necessitate very few calls from the doctor. Wounds and other injuries that formerly required a long period of attention from the physician, now, with modern treatment heal very quickly, often needing no more than first aid measures.

*Read before the Muldraugh Hill Medical Society.

Chronic cases that were treated by the family physician for months and sometimes for years, now soon drift into the hands of the specialist. (From whence they sometimes never return).

Quite a bit of custom has been lost through doctors prescribing proprietary medicines. The patient reading the printed directions and afterwards prescribing for himself or friend in supposed similar conditions.

Or, perhaps, their good friend, the druggist, suggests the remedy. Telephone consultations often answer the place of a call and the doctor loses the fee that was formerly paid for a visit. The great host of pathies, isms and irregulars that have sprung up in the past few years, though their pretensions may not stand the test and their popularity soon wanes, yet they detract a considerable toll of the fees that should go to the regular practitioner of medicine. The laity are becoming fairly well informed as to the nature and symptoms of disease and of the use of first aid remedies, and in many instances minor ailments are cared for without the aid of a physician.

The known and more uniform action of drugs, and the attendance of the nurse makes the doctor's prolonged stay with the patient more unnecessary and visits less frequent than in former years.

But notwithstanding the field of labor for the regular practitioner has greatly narrowed along some lines, yet there should be more remunerative practice for the doctor of to-day than there was for the good old doctor of thirty years ago. And especially is this true of the country doctor.

While the demand for medical services has diminished greatly along some lines it has developed along others and will continue to develop in proportion to the energy and study the doctor puts into it. The greater number of the rural physicians are not awake to the great opportunities that lie within their reach. Their neglect is the charlatan's and irregular's opportunities. The failure of the regular physician to avail himself of all therapeutic agents and methods of merit has left an open field that many so-called systems, that have sprung up, have rushed in to occupy. And not only have they occupied the neglected field but have invaded the regular's field of action. The physician should not allow himself to be taken away with "fads and fancies" but he should be all sufficient outside the realm of the regular specialist. And while the specialist has developed a field of his own and has become an absolute necessity, in many instances physicians might use more wisdom in referring cases, with profit to himself and often real favor to the specialist. The energetic and skillful physician

should be able to hold and to attend to nearly all the work in his scope of practice. He should know something of psychotherapy; he should know all that is practical of osteopathy and the secret specialties. Every physician remote from regular specialists, should be qualified and equipped to do refractory work and save to himself some good fees and protect his patients from the robbery and malpractice of the "speck peddler" and the itinerant specialist.

In fact the physician should be on the alert to avail himself of all useful and practical therapeutic means from any and every source. He should not be the first to accept the new and never be the last.

Right now, serotherapy deserves attention, and the physician who avails himself of it, wisely, is going to increase the demand for his services.

While there is a tendency with some doctors to make frequent and extra visits to patients, often in the same day and complimentary, there is a tendency with others, perhaps, to make their visits too few. The patient should be seen as often as seems necessary, and if the visit is necessary it is worth something and should be charged for accordingly. The physician who makes a practice of making extra and complimentary visits leaves the impression of a lack of confidence in his remedies, injures his professional brother and lowers the dignity of his profession.

Information given over the telephone, that takes the place of a visit or an office call should be charged for. And unnecessary consultations should be discouraged. A fruitful source of employment that the physician might more avail himself of, that has been greatly neglected, is office practice. This work should be energetically studied and encouraged. It is easier and more remunerative than the same time spent in making calls. To the wide awake and inventive doctor it is a profitable and ever developing line of work.

The office should be well equipped with necessaries, should be clean and inviting. A careful record should be kept of cases. Collections should be looked after in a business way. The doctor who dispenses can get much pleasure, information and profit in preparing many of his own medicines and formulas. There is much special work the general practitioner can and should do, and there are emergency cases and other cases that can not be induced to go to the specialist to whom the physician should be able to give the best attention possible at home. He should be eager for service but should not attempt anything only in cases of emergency, that he can not do skilfully and complete. There is a greater demand for the services of the energetic, con-

scientific physician to-day than ever before. And the demand for such will never grow less, and he will ever continue to be more and more necessary and among the world's greatest benefactors.

PUBLIC HEALTH MEETING, 10 A. M. FEBRUARY 22ND, 1914, HIGH SCHOOL AUDITORIUM, LA GRANGE, KENTUCKY.

Music

Invocation

Salutatory

1. Prevention of Tuberculosis D. S. Wilson
2. Cancer Can Be Cured O. E. Bloch
3. Preventable Diseases and Simple Methods
R. B. Cassady
4. Ideal Sanitation A. T. McCormack

Music

5. What Others Are Doing C. Z. Aud
6. What Oldham Must Do Edw. C. McAllister
7. Practical Plans To Meet the Needs

Judge S. E. DeHaven

8. General Discussion led by Messrs. Head, Clark
8. General Discussion led by . . Drs. Goldsborough
Freeman and Messrs. Head, Clark and Selph

Music

12:30 P. M. Dinner, Park Hotel.

Doctors' Session 1:30 P. M.

Fifty Year Jubilee in Honor of Dr. J. H. Speer.

1. Reminiscences J. H. Speer
2. Tuberculosis, Yesterday and To-day
D. S. Wilson
3. The Old School and New School Surgeon
O. E. Bloch
4. Our Armor-Plate E. D. Burnett
5. Our Mutual Good C. Z. Aud
6. Why Are We Here, Any How?
A. T. McCormack

7. Discussion led by J. A. Freeman, C. N. Goldsborough and R. B. Cassady

Contagious Disease Hospitals.—L. A. Lamoreaux, Minneapolis (Journal A. M. A., January 24), advocates an approach to the skyscraper architecture for contagious disease hospitals and describes the one beginning to be constructed in Minneapolis, which is to be eight stories high and which will have the advantages of economy of upkeep and of not requiring a large and expensive site. He points out also some conveniences of administration afforded by this type of construction of a city hospital.

Sciatica. Treatment. Marked improvement in 2 cases after a few daily subcutaneous injections of 1 c.c. (16 minims) of 1:1000 epinephrin solution.—Gaisbock.

COUNTY SOCIETY REPORTS

Daviess—The Daviess County Medical Society met at the City Hall, Owensboro, Tuesday, March 17th, 1914, at 10 A. M.

Morning Session.

Reading minutes.

Application and balloting for new members.

Report of cases.

W. L. Tyler read a paper on "Chronic Diarrhoea," Discussed by **R. E. Griffin** and **R. N. Philliatrean**.

Afternoon Session.

J. T. Dixon read a paper on "Some Problems in Infant Feeding." Discussed by **Ed. Barr** and **J. L. Carter**.

R. L. Schroeder read a paper entitled "The Laboratory Methods the General Practitioner Should Use." Discussed by **V. A. Harl** and **C. M. Rice**.

R. E. GRIFFIN,

P. D. GILLIM,

O. W. RASH,

Committee.

Greenup—The Greenup County Medical Society met in the Masonic Hall at Greenup, March 5th, 1914. Members present, H. T. Morris, A. S. Brady, E. R. Fitch, A. J. Bryson, C. E. Vidt, and A. P. Hunt.

Minutes of the previous meeting were read and approved.

C. E. Vidt read a most excellent paper on "Purulent Bronchitis." The doctor emphasized the importance of a more accurate examination of patients both physically and microscopically. The paper was very practical, scientific and interesting. Every member complimented Dr. Vidt for writing such an original paper.

A. J. Bryson opened the discussion and was followed by **A. S. Brady**, **A. P. Hunt**, **E. R. Fitch**, **H. T. Morris**, and closed by **C. E. Vidt**.

The following program was selected by E. R. Fitch for the next meeting to be held at Fullerton on April 2, 1914:

H. T. Morris, "Etiology, Symptomatology and Diagnosis of Pleurisy." Discussion to be opened by **J. I. Rathburn**.

A. P. Hunt, "Medical and Surgical Treatment of Pleurisy." Discussion to be opened by **M. W. Meadows**.

The Greenup County Society is now working and in good order. The next meeting will be the best ever held in this county.

A. P. HUNT, Secretary.

Regular and Jefferson County Issues Combined

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

A. T. McCORMACK, EDITOR.

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PAEDIATRICS

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EDWARD SPEIDEL

MENTAL AND NERVOUS DISEASES

CURRAN POPE

EYE, EAR, NOSE AND THROAT

ADOLPH O. PFINGST

SOCIAL SERVICE

DUNNING S. WILSON

PRACTICE OF MEDICINE

W. F. BOGGESS

VOL. XII. 

BOWLING GREEN, KY., APRIL 15 AND MAY 1, 1914

Nos. 8 AND 9

EDITORIAL.

COMMUNITY PHYSICIANS.

We wish every medical man in Kentucky could have been present in the sessions of the Conference for Education in the South, which recently convened in Louisville. It was different from most National gatherings. While there were plenty of meetings of the regular orthodox sort in the different sections, most of the work was done in a big community demonstration in the Armory. Here were gathered together actual demonstrations from almost every community in the country which has distinguished itself by doing something as a community better than it has ever done before by individuals. When one had made the rounds and had had it explained to them how the community bought fertilizer, farm machinery or other manufactured products cheaper, as a community; how many communities had sold its live stock, fruit or berries at better prices because organized; how one community was building better homes, both for owners and tenants on farm land and how another was securing better roads or better schools by cooperation, it somehow begun to dawn on us that the possibilities of the development of community interests and community life in the rural districts of the United States has already begun. It was even demonstrated that a single community church in the country would show a broader road to Heaven, if well cared for by a resident minister who was worthy of the job, than the numerous by-paths that lead to Heaven from the scattered sects and neglected houses of the numerous denominations now parasitic in our country life.

No more interesting problem was presented than the community physician. In no

other state is the suggestion as worthy of serious consideration as in Kentucky because in many ways and in most counties in this State professional organization has reached its highest and best development, and our doctors realizing present conditions are looking forward to the future, unafraid of its development because they know from its history in the past that the profession of Kentucky is going to meet the demands upon it and serve the people of the State in a way which will command their confidence and respect.

Kentucky doctors realized among the first that the medical education of the last quarter of the last century was defective in that it taught us more about the diagnosis of disease and less about treatment. We realize that this has reached a point where it actually re-acted on our powers of diagnosis. Many of us have gotten so accustomed to prescribing nostrums, ready-made mixtures and pills, about the composition and physiological action of which we are equally ignorant, until we have lost respect for ourselves as doctors and command only that respect, or lack of it, which belongs to the peddler. In some communities it has already been demonstrated that a physician with the real spirit of leadership can teach the people how not to be sick, can eliminate a large part of his practice by getting rid of consumption and typhoid fever and other preventable diseases. In other words, a health conscience is created in the people of his community that makes them understand a personal responsibility for the existence of those diseases, whose methods of propagation we have already learned. Such a community physician must be supported in some way and a few of them have already agreed to do this by a voluntary assessment plan on all families.

All of this is in the formative stage, how-

ever, but it behooves the individual doctors of Kentucky to be thinking of such developments as this that they may not find us asleep.

HAZELWOOD SANITARIUM.*

(See Advertisement on Page xv.)

Through the courtesy of the Kentucky State Medical Association, the Association Sanatorium, (Hazelwood) for the treatment of tuberculosis is accorded full page advertisement.

The physicians of the State should know something of the history of this Institution and should in so far as possible, arrange to send their patients for treatment in order that they may be trained in the measures which will improve their own condition and protect others with whom they come in contact.

The Sanatorium which was opened September 1st, 1907, with ten beds, was made possible by the contributions from public spirited citizens who realized that some provision must be made for persons suffering from tuberculosis who could afford a moderate sum to secure proper treatment and instruction. The corporation which was organized, specifically states in one of its articles that it is not maintained for profit and each year citizens of Louisville have been forced to make up a deficit out of their own pockets.

A fire occurring February, 1912, destroyed the Administration Building but a new and modern building with adequate fire protection has taken its place, thanks to the contributions of Louisville's citizens. None of the funds obtained have come from outside of Louisville and yet patients from all over the State are admitted for treatment at \$12.50 per week which includes everything unless the patient is so ill that a special nurse is required which, of course, is furnished at actual cost.

When we consider that the results obtained at this Institution are equal to results obtained elsewhere and that the care and treatment at the price is equal to what costs from \$20.00 to \$30.00 a week in other Sanatoria, the physicians of the State can by sending their patients for treatment, do a great service to themselves and support a work which is worthy in every way.

Accommodations can now be made for sixty patients and certainly out of the six thousand or more persons suffering from tuberculosis in the State, there can be found (if the physicians will but support the work) enough persons who are able to pay \$12.50 per week to keep the Institution full.

It is hoped that even the price of \$12.50 may be reduced provided the beds are all occupied continuously as the only object of the corporation is to try to be self-supporting.

During all of the vicissitudes and trials through which the Institution has passed in the last six and a half years, there has never been one minute that the members of the Board did not believe that the physicians in the State would finally come to a realization of the excellent work which was being done and would support it by sending their patients in sufficient numbers to finally make the Sanatorium self-supporting.

The Sanatorium is located about three miles from the City at the top of a hill and is reached by the Fourth Avenue car. This puts it beyond the zone of smoke and dirt of the City and gives all of the advantages of pure air and sufficient elevation to afford the patients advantages of the country and yet none of the disadvantages of inadequate accommodations. The drainage is excellent and no effort or excuse is spared to give the patients the very best of care and treatment.

SCIENTIFIC EDITORIALS.

WHAT IS THE PRESENT STATUS OF RADIOTHERAPY?

It must have been the quiet but energetic and persistent work of the radium trust that caused such an active revival of radiotherapy in this country. For a time it seemed that this country, particularly the East, had gone radium crazy. Some unfortunate rich patients, afflicted with malignant disease, were fortunate enough to have applied to them radium in quantities, ranging in price from \$5,000 to \$100,000 but no benefit was derived from such expensive applications. A few fortunate physicians having access to and privilege of using this precious metal, must have reaped a rich harvest. My little mite of ten milligrams was not in it. I felt like "thirty cents" when I read of the quantities used.

Sensational and nonsensational newspapers have done a great deal of advertising of the wonderful and imaginary results obtained from the use of radium. As a result of such wonderful and glowing reports, fraudulent radium institutes sprung up in many sections of the country. It is true, that occasionally, one sees a case of cancer benefited by the use of radium. In my own practice a case of cancer of the inner canthus of the right eye was seemingly cured by the use of radium, but I used in connection with it a solution of methylene blue. In a few other cases benefit was derived but no cures ac-

*See advertisement on page xxv.

complished. Better and quicker results were obtained by me from the use of X-rays.

Gamma rays were used by radium workers in nearly every case. Now comes the announcement by Alexis Carrell and Abbe that gamma rays, which were considered the most penetrating and the most useful for therapeutical purposes, are not so active and penetrating and useful as the Beta rays, which were considered dangerous.

The history of radium reads like a fairy tale. In 1896, Becquerel observed certain radiations resembling the rays in uranium and all its compounds. Prof. and Madame Curie, in 1898, followed this discovery and obtained what was considered a metallic element from pitch-blend, an uranium metal. On the death of Prof. Curie, his wife continued investigations and, later, found radium.

Becquerel, in carrying a small piece of radium in his vest pocket, observed about a fortnight later a severe inflammation of adjacent skin. This was the first demonstration of radium's caustic and destructive action.

A little over ten years ago when I was attending clinics in Europe, the profession and the laity were radium mad. Even the staid old London was radium wild. X-ray, in many respects far superior to radium from a diagnostic and therapeutical standpoint, was forgotten for a while and radium was the chief topic. Even Sir William Ramsey, the great English scientist, became a very ardent follower of radium, and, later, discovered that radium had the power of being transmuted into helium.

Over-enthusiastic followers of radiology and radiotherapy made preposterous claims but their claims soon went into oblivion. The ardor of the enthusiast of radiotherapy, with few exceptions, cooled down and radiotherapy was abandoned for a while as are many other uncertain agents. Just about two years ago, Mesothorium was taken up by German scientists and was claimed by them to be superior to radium. As usual, preposterous claims were made for mesothorium. Mesothorium was soon abandoned, and was followed by a renewed revival of radium in this country. What is the real status of radium? Louis Wickham, Degrais and Abbe, the most enthusiastic workers, have rather become conservative of late in regard to the real merits of radiotherapy. The number of cures claimed by them now is not so great as it formerly was. There can be no real status of the value of radium therapy, since the properties of radium are not well understood. A variety of theories have been offered to explain its peculiar properties. Some scientists declare that radium is a source of earth heat and that it is probably of the same substance as that of the sun, since it is known to emit certain

gases of the same vapor as is given out by the sun. Much of the speculation among the therapeutic values of radium have been found unwarranted by actual demonstration, but that it will some day be found a very useful agent, cannot be disputed.

Surgery, if justifiable, offers at present the best and surest method in handling malignant cases.

M. L. RAVITCH.

ORIGINAL ARTICLES

MERCURIAL STOMATITIS.*

By EDWARD DUFF BURNETT, Anchorage.

The prevalent and indiscriminate use of calomel by the laity calls for a definite word of warning from the family physician. Our clientele should be taught the grave dangers that are likely to attend the unskilled employment of mercury in any form. They should be instructed never to use calomel or any of the mercurial family without the direction of a physician.

Every case of mercurial stomatitis should be a strong lesson to each of us, reminding us of the possible harm that may come from too frequent use of calomel. In many cases of constipation saline cathartic, repeated once or twice, will serve every need and oftentimes is better medication.

PHYSIOLOGICAL ACTION.

All of us recognize the alterative, tonic, antiseptic and purgative action of mercury, as well as its specific effect in syphilis. And too, we are familiar with its splendid result in certain inflammatory conditions.

When given over a period of time it is slowly eliminated and tends to have an accumulative effect that is quite harmful. The liver and the kidneys seem to store it up in larger quantities than do the other organs of the body. It should never be given in cirrhosis of the liver or where albuminuria is found.

We know that the mild chloride is a cholagogue only by reflex action, its purgative effect upon the upper bowel, especially the duodenum. It should always be preceded and followed by castor oil or a saline purgative.

During the administration of mercury in any form we should always be on the alert for the initial symptoms of mercurialism.

CHEMICAL ACTION.

Entering the stomach in any form, mercury is converted into a double chloride of sodium and mercury; then comes a union with the albuminous juices to form a complex

*Read before the Hopkins County Medical Society

molecule of mercury, sodium, chlorine and albumin. This is soluble in an excess of sodium chloride or albumin. This solution is easily absorbed.

Only a small portion is absorbed in the intestines, the rest being converted into a sulphide and excreted with the feces.

Mercury stimulates most of the glands of the body to the production of pathological secretions, especially the salivary glands and the pancreas. It is found in the saliva, sweat, milk, urine and bile but is excreted rather slowly. It is possible to find it stored up even six or more months after medication has ceased. Its excretion is facilitated by the presence of iodide of potassium.

The combination of calomel with hydrochloric acid or chlorides is apt to precipitate corrosive sublimate, a violent poison. It is thought at the present time that stomatitis is a septic condition arising from the mercurial awaking of some latent alveolar trouble or gingivitis.

CLINICAL REPORT.

The two following cases illustrate every day experiences and remind us that we can't be too cautious in the administration of mercury.

Case I.—Woman 30 years old; 48 hours after having had calomel, grains two in broken doses, developed the following: metallic taste; foetid breath; swollen and coated tongue; sore buccal cavity; headache; temperature 99 3-5 F.; slight tenderness over epigastrium; and increased flow of saliva.

She gave a history of having eaten a large amount of home made candy the day before taking the mercury.

Case II.—Man, 23 years of age, after taking 1-2 grain protoiodide of mercury three times a day for two days ate a raw apple and developed a sore mouth and belly in twenty-four hours. I found the following symptoms: Pulse 108; temperature 101 F.; diarrhoea; tenderness over the abdomen, especially the colon; headache; swollen tongue; several ugly ulcers in the mouth; sore gums; and loose teeth with the characteristic blue lines on gums.

TREATMENT.

Leave off the mercury at once. Eliminate by bowels and kidneys, e.g., sodium phosphate or castor oil and alkaline mineral water. Strychnine for support. Belladonna to control ptyalism. Liquid diet. Alkaline antiseptic mouth wash. Rest in bed in weakest cases.

Case 1 had a complete recovery in fifteen days and Case 2 in twenty-five days.

A very mild case of stomatitis calls for a simple mouth wash for several days and a mild saline laxative.

CONCLUSION.

Both of these patients had full instructions about diet while mercury was being taken and the dangers that sometimes arise. They were questioned closely and gone over thoroughly before mercury was prescribed. Some individuals are very susceptible to the action of mercury and care should always be exercised when prescribing it. All the more care is urgent because most of us prescribe it daily.

I report these cases that a note of warning might be sounded.

PSYCHOTHERAPY.*

By ANDREW SARGENT, Hopkinsville.

In the preparation of this essay I shall forestall criticism by saying that I will not attempt to present anything new or original.

Psychotherapy far from being new, is as old as the history of mankind, and was employed in ancient times.

The influence of the mind over the body was recognized by Plato, who said that the trouble in his time with physicians was that they treated the body too much and forgot about the influence of the mind over the body.

Galen insisted that without the confidence of the patient the physician will often fail. He also pointed out that though many physicians used different remedies to heal diseases; they all got good results, and he hinted that the influence of the physician on the patient's mind meant much in this matter.

Often the confidence of the patient in his physician does more for the cure of his disease than the physician with all his remedies.

Paracelsus said, "Imagination and faith can cure and remove diseases." Many such expressions of physicians of all periods might be quoted. The greater the physician, the surer one is to find the belief in such opinion.

Small minds have thought their remedies all powerful, but this was not true for the large minds, their remedies were helped always, they knew, by the patient's mind.

Mary Baker Eddy and Alexander Dowie are recent examples of the power of mind over body. What physician of ancient or modern times ever exhibited so many happy patients as they did, and though dead their works do follow them.

Cures at Lourdes is the subject of an editorial in the *Medical Record* of November 8th. Recently a circular letter was sent one thousand physicians in regard to Lourdes cures. The answers varied notably.

Despite a large degree of skepticism many conscientious practitioners have been found who admit frankly the cure of actual disease.

*Read before the Christian County Medical Society.

A list of prominent practitioners is on record as upholding the existence of a superterrestrial agency in some of the cures.

Several university professors have gone on record with attestations to this effect, including the late T. Gailliard Thomas of New York.

Among cases which yield to Lourdes treatment tuberculosis is well represented, including recoveries from lupus.

The average patient is a creature of habit, and is incapable of independent or original thought.

The most important factor for the beginning of psychotherapy is to secure freedom of mind from solicitude about self. Solicitude prolonged will make the normal heart miss beats, will hamper the action of the normal stomach in its work, will interfere with all its secretory functions.

Whenever there is anything organic the matter with important organs, then it is still more to be desired that the patient should not be solicitous. A crippled organ can be even more seriously interfered with than a healthy one. Hence all the distinguished heart specialists of recent times have insisted that the first and most important element in the treatment of heart disease must be to set the patient's mind at rest with regard to his heart, without this drugs have an extremely difficult task to perform, while with it they are readily efficient.

Broadbent and McKenzie have not hesitated to declare that this is absolutely the most important element of cardiac therapeutics.

In mild chronic diseases, particularly persuasions with regard to the seriousness of the affection present, and of its supposed incurability, do more to keep up the affection in a great many cases than almost anything else.

The pathology of a disease is always an important aid to its treatment, but we as psychotherapists must remember that pathology is only physiology under adverse conditions, and is nearly always a conservative process.

All sorts of remedies have been used by the medical profession, most of them quite innocuous, some of them slightly harmful, that have been supposed to produce definite therapeutic effects, and have actually cured many cases when first employed, though afterwards their therapeutic efficiency was recognized as nil, and they have been abandoned.

The mental influence aroused during the administration of them has given them all their remedial value, and has even enabled them often to counteract certain ill effects produced by them and do the patient good.

This is the element of mental influence in the history of therapeutics, and it makes it extremely difficult to decide as to absolute curative powers.

We have had literally thousands of drugs used in medicine because empirically, or on theory, they cured disease, and only some three score of them are left, and only half that many are used by physicians with any confidence of success.

Nothing illustrates better than the above the fallacy of new remedies. Cures by them may indicate either that the new remedy is efficient, or that it aroused hitherto latent powers through mental influence, and so gives relief. A new remedy is very prone to do this because of the enthusiasm with which it is taken up, and the confidence aroused by the doctor's hopeful attitude in giving it.

Not long since a distinguished French professor said to a young physician who asked him whether he, himself should take a much vaunted new remedy replied, "O, yes, and take it now while it is new and still cures, for after awhile it will be found not to cure."

It is not alone neurotic diseases, that is, affections consequent upon persuasion and mental states or so-called imaginary diseases that mental influence can do good.

In all organic diseases, however, there are always certain symptoms due to the mental states, to discouragement and depression, that are greatly exaggerated by concentration of mind on them. These conditions are only amenable to psychotherapy, sometimes these symptoms mean so much to patients that when they are cured they think the underlying disease is cured.

Specialists in the disease are agreed that "tuberculosis takes only the quitters." That is, those who give up the good fight and think they are the victims of an inevitably progressive and fatal disease. Hence the first element in the treatment of consumption is to remove unfavorable suggestion with hopeful and helpful ones.

If for instance the patient has any persuasion that because the disease is in the family it is hereditary and therefore almost necessarily fatal.

The present attitude of physicians to the inheritance of the disease is explained by saying it is contagious and not hereditary. If it runs in families it is because of contagion and environment. A member of a family in which tuberculosis exists on both sides is in less danger from the disease if he is well up to weight than a thin person without any such family history.

As a matter of fact a man with a family history of tuberculosis always has a little better resisting vitality against the disease than those in whose family there is no such history.

Even in cancer, psychotherapy has a place. Patients have been operated on, the cancer found inoperable, this decision has been mercifully withheld from them, but having

been operated upon, they are told, and naturally think they ought to get well. After such patients have lost some thirty or forty pounds they have been known to regain all that was lost and more too, the result of this encouragement, though eventually the cancer proved fatal.

In skin diseases psychotherapy has a definite place. All the chronic skin diseases are influenced by the mental state. Even warts have been charmed away by mental influence in so many cases that there seems to be no doubt about this influence.

The story has been printed that six typical cases of Pellagra were sent from the State Insane Hospital of South Carolina to New York to be treated, and they were all relieved of their symptoms before they could be treated.

In every form of disease external and internal, organic and functional, somatic and nervous, mental influence can do good. It prevents the inhibition of vital forces by removing dreads and contrary suggestions that so often tie up recuperative energy. It taps new sources of energy and enables the patient to use will power over tissues not active before.

Living on the will is no idle expression, for patients have been known quite contrary to all medical expectation to live to an allotted time after having willed to do so. On the other hand nothing is more fatal than giving up hope.

The will to live, the will to be well, the putting off of discouragements, all this represents an important factor for health both as regards the continuance of health and its recovery.

Have we as physicians done our whole duty by our patients until we have tried all known means to inspire hope and prolong life, and what is better than life itself the desire to live?

Urethral Cysts.—Two cases of cystic degeneration of the posterior urethra are reported by A. J. Underhill, Baltimore (*Journal A. M. A.*, January 24). They both followed previous gonorrhoeal inflammations and the conditions were discovered only by endoscopic examination. Solitary cysts of the prostatic urethra are not uncommon but differ from the multiple variety in the cases described where they were sessile and looked like pearls embedded in the mucous membrane. The local symptoms are not distinctive and the subjective symptoms are those characteristic of the neurasthenia accompanying many of the chronic diseases of the posterior urethra. Underhill believes the condition will be found much more frequently with the more general use of the endoscope. The treatment is dilatation followed by incision of the cysts under control of the eye.

HEAT PROSTRATION.*

By N. C. MAGRAW, Hopkinsville.

Having been requested to write a paper and select my own subject for this meeting, my thoughts turn to heatstroke as this is the hottest June I ever felt and the indications are that it is going to continue hot.

So I will define heatstroke as a depression of the vital powers the result of exposure to excessive heat. It manifests itself in three forms, as acute meningitis, heat exhaustion and as true sunstroke.

Heat exhaustion is the most common and is brought about by a lessening of the powers of the system to resist any great bodily fatigue also by overexertion and intemperance.

Structural changes rarely develop owing to the sudden action of the heat on the system and the rapidity of the symptoms. The left ventricle is contracted, the right heart and vessels are engorged with dark fluid blood, all the organs are in a state of venous congestion.

Sunstroke comes on suddenly with or without prodromes and is manifested by insensibility with or without delirium, convulsions or paralysis, flushed and hot body surface injected conjunctiva, rapid and shallow or labored and stertorous breathing.

Quick pulse either bounding or weak, and temperature ranging from 105 to 110 with suppression of all glandular action when death occurs, it results from asphyxia or from slow circulation.

Heat exhaustion develops with a rapid feeling from weakness and prostration, the face pale, surface cold, voice weak, the circulation rapid and weak, the respiration increased and vision grows dim. noises develop in the ears.

The patient becomes partially or completely unconscious, the patient falling unconscious with tremors and sunken, features and possibly convulsions.

Acute meningitis as a result of heat stroke is rare, but when it does occur, the symptoms are similar to cases due to other causes. It is of great importance to be able to distinguish at once between attacks of sunstroke and heat exhaustion. This can be done by the aid of the thermometer. Sunstroke is to be differentiated from alcoholic poisoning and cerebral hemorrhage by the history, season, occupation and the temperature.

The prognosis is usually favorable in heat exhaustion properly and promptly treated, less so in sunstroke, but of course that depends on the severity of the stroke, the previous health of patient and the promptness of the treatment, unfavorable indications are increased temperature, cardiac failure, con-

*Read before the Christian County Medical Society.

vulsions and absent reflexes followed by complete muscular relaxation; favorable symptoms are decline in temperature, stronger pulse, increased depth of respirations, restored reflexes and a return of consciousness. In any of the forms of heat stroke, the following conditions may result, vertigo, headache, insomnia, epilepsy, mental enfeeblement and monoplegia, paraplegia or hemiplegia. Prophylaxis is highly imperative especially in the aged and those that are run down from any cause.

We should live regular and temperate lives, avoiding all sorts of intemperance such as drinking, especially alcohol, eating and exercising, light weight clothing should be worn, and the rays of the sun avoided as much as possible. The condition of the secretions should be watched and kept active, especially the skin, and if sweating stops shelter and rest should be sought at once, mild cases of heat prostration require very little treatment in the way of drugs, a little judicious management such as the removal of the patient to the shade, loosening all constricting clothing, sponging with cool water, a cold cloth on the head. If any medicine is needed a dose of spirits of ammonia or nitroglycerine by the mouth. If temperature is subnormal a hot bath is indicated. Strychnia may be used a day or to if patient is nervous and weak. On the other hand sunstroke requires the most energetic and prompt treatment if we hope to save our patient.

The patient is in great danger from the high temperature, means must be resorted to to reduce it at once, nothing is better than the cold bath, if that is not convenient, rubbing with ice, is a good substitute, up and down the spine especially. A cold enema may be given with excellent results, some authors advise the hypodermic use of quinine sulphate or antipyrine. I have never used either.

To combat the subsequent rise of temperature the patient should be wrapped in a cold sheet, if restlessness and convulsions occur, morphine should be used and repeated if needed or the bromides and chloral may be given per rectum. Now if depression occurs strychnine 1-40, may be repeated several times if necessary. Hypodermoclysis and enteroclysis will be of value under such condition.

After the fever has been reduced the patient should be placed in a cool place, and ice cap on the head, small pieces of ice may be given to relieve thirst or gastric irritability with small doses of calomel to move bowels, a light diet such as skimmed milk or buttermilk, grape juice, or vegetable soup may be given a few days. During convalescence iron, quinine and strychnine may be given.

HEREDITY AND CHILD WELFARE.*

By JOHN D. TRAWICK, Louisville.

"And a little child shall lead them."

A responsibility is being placed upon the medical profession to keep pace with all the social interests working for the conservation of the child life of the nation, for it is being recognized as never before that in the welfare of the child lies the hope of the race.

You hear how environmental influences are being searched for agents deadly to infant survival, and see daily how the volume of evidence is growing to show that the whole mind of the nation is in accord with the Nazarene's judgment that should a man offend one of these little ones, it were better that a millstone be tied about his neck and he be cast into the sea. A study of the potentialities of the child already born soon leads a serious student beyond the fact of birth and the presence here of a physical organism with its endowment of worth or unfitness to the pre-conceptional era of the human individual. The truth is demonstrated that whatever exists in the new individual of resistance to disease, of stability of nervous system, in brief, whatever that individual may possess of ability to live and thrive must have been inherent that is born within him.

Close inquiry into the modern conception of laws of heredity gives proof that whatever of potentialities the individual may possess have been predetermined in the inheritance. That a man may acquire by his environment, and be the gainer by culture, and that every responsibility rests upon him to develop to the fullest all there may be inherent within his personality is perfectly true, but not more so than that an individual is capable of culture just in proportion to his potentialities.

A child resembles its mother because of the inherent determiner within the producing cells for likeness to the maternal parent. If a biological trait or character exists in a human individual it is present because of a determiner for that character previously existing within one or both of the producing cells from which that individual sprang. If within the producing cells, which by fusion are destined to make a new being, there should exist the determiner for any given trait, the new individual produced is as sure to have that trait within his potentialities as he is to resemble his parents. There need be no confusion here. Race, color, sex, character, all are predetermined within the producing cells, but every trait of biological character inherited does not always find expression in the indi-

*Read before the Muldraugh Hill Medical Society.

vidual, simply because perhaps the environment has not called into prominence the potentiality for the trait.

A child may inherit musical ability for instance from one or both parents, and by force of poverty or restraint of environment give no expression that it has musical bent until some chance gives opportunity for the potentiality to manifest itself.

But all the chance, opportunity, culture, training, or what not in its environment could not have put into that child inherent musical bent had it not possessed the potentiality any more than culture could have kept him from resembling his parents.

The force of this wonderful law of inheritance finds distinct application in what we term "constitution," or bodily resistance, in childhood.

Since we have shown, by implication, that whatever influence is to find its expression in the mature individual must first have found its biological beginning in the protoplasm of the producing cells, we must confine our attention as scientific investigators to those human influences that can truly be shown to effect cell protoplasm. In other words, for this consideration, we are interested only in those factors which can be proven to effect the producing cell, for thereby we reach the fundamental influences that affect child life, not only in part but in potential.

If any poison, for instance, is thought to have inherent effect upon a child's constitution it must be shown to have first an effect upon the producing cells which fused to form that child.

C. R. Stockard in the *Archives of Internal Medicine*, October, 1912, in an "Experimental Study of Social Degeneration in Mammals Treated with Alcohol," gives account of some experiments which call attention in a profoundly convincing manner to alcohol as a protoplasmic poison.

Alcohol was given to otherwise apparently normal guinea pigs by inhalation treatment.

A paternal test was applied by mating alcoholic males with normal females, which was a crucial test for effect of alcohol on the male producing element of the germ cell since the mother and ovum were unimpaired.

In the maternal test alcoholized females were paired with normal or untreated males. "Here the mother," says the investigator, "has two chances to injure the offspring, either by producing defective ovum, or by supplying unfavorable or diseased environment in which the embryo must develop."

The greatest chances for impairment of offspring lay of course in mating of two alcoholics.

The outcome of these matings was most con-

vincing, in demonstrating that alcohol may directly effect offspring through either parent, by producing changes within the protoplasm of the producing cells. The animals were never completely intoxicated, they were merely in a state corresponding to that of the moderate drinker or chronic alcoholic.

Nine control matings gave nine litters consisting of seventeen vigorous individuals. Out of forty-two matings of alcoholized animals only seven young survived and five of these were runts.

In the paternal tests there were abortions, still births, and early deaths. The maternal tests showed much the same general results.

When both parents were alcoholics, in most cases the matings resulted in no offspring, or very early abortions or in still born litters.

The single offspring born living from fourteen matings of alcoholic parents died in convulsions at an early age. In general the deaths of these unhealthy young followed symptoms of nervous disorders.

"Here are data to be reckoned with," says the *Journal of the American Medical Association* in which the experiments are commented upon editorially. "They invest the records of degeneracy in relation to alcohol with a new significance."

Guinea pig or human individual, it matters not. The assertion can be made without hesitancy that the producing cells are influenced by alcohol. The higher the organism the quicker is the poisoning effect noted of these drugs of the narcotic class.

Child welfare cannot be attained until the racial effect of alcohol as a poison has been understood and resisted.

In this relationship we must refer to the degeneracy, the epilepsy, the unstable nervous organism, immorality and criminal tendencies which act as train bearers to his spirituous eminence.

Alcoholism may be consequent upon mental defect, not antecedent to degeneracy, that is, chronic alcoholism is an evidence of previously existing mental defect, or degeneracy, is a mark of defective germ plasm in the parental stock. The child is defective not because the parent is alcoholic, but because it is the product like its parent was, of defective germ plasm. The child may be physically or mentally fit, and yet when maturity is reached exhibit alcoholic tendencies.

Alcoholism in the parent is apt to lead to earlier alcoholism or degeneracy in the offspring. Parental alcoholism accentuates the downward trend, with each successive generation the period of exemption from alcoholism and degeneracy is shortened so that the offspring becomes alcoholic or degenerate at a relatively earlier age.

It is upon families that are prone to degen-

eracy that alcohol appears to put the finishing touches and renders physique and ability of offspring more and more unsatisfactory with each successive generation acting to light up and determine the existence of a neurosis or psychosis which might otherwise be on the wane.

As interesting as this line of study would be pursued into the etiology of degeneracy in childhood we must give brief attention to another factor in the social order making for disease and degeneracy and death which springs from the misuse or violation of the very laws society has made for its own perpetuation and safeguarding.

Here again the evil is most deadly in that it works its worst within the producing cell. If syphilitic disease could be shorn of all relationship to posterity and be proven to infect alone the persons primarily involved, and with their passing end, so far as that personal history goes, yet would syphilis be counted as "slaying its thousands" and be worthy of national reckoning. But when there is added to this known personal history, the fact that in the offspring we find so much disease and hurt inherited we must class syphilis as a racial poison second only to alcohol in potency.

The modern treatment of this disease is particularly interesting to those of us who are studying the medico-sociologic questions of the day.

There has come no new generation, yet, since the newer treatment has come in vogue, therefore we cannot pronounce finally upon the hereditary influence of the disease as affected by the treatment.

Since then the deepest students are not yet prepared to say that the treatment will cure all cases, nor that cases apparently cured will remain so, we can only maintain our stand that syphilis is in every biologic sense opposed to child welfare, and the moral issue is unaffected.

These two health menaces are cited to bear upon our statement that resistance to disease can best be reckoned in terms of inheritance. All treatment, sometimes at best problematical, must remain more or less experimental so long as we are in doubt as to the inheritance of the child. Infant mortality, therefore, must first be studied in the incipiency of the child's forbears. Child psychology is a story but half told if viewed merely from the standpoint of the immature being.

Neuroses, tendencies, traits are but individual repetitions of previously existing tendencies, neurosis or traits.

Every factor to-day making for child welfare is significant in that we are to-day laying

foundations biologically for potential parents that their children may fare well.

THE QUESTION OF SEX EDUCATION.*

By H. J. FARBACH, Louisville.

I have often been asked, "what does all this sexual education and eugenic talk amount to, do you candidly think it is doing any good. is there such a great increase in venereal diseases and is there a venereal menace?"

The question itself answers the first inquiry. Any movement that brings about the recognition of an evil, social or political, is doing good.

Have venereal diseases become a public menace? Ask the mother, whose first born lies in her lap and rolls from side to side in their sockets two starring, sightless orbs. The sweet mysteries of a new life within her life that changed a care free, pleasure seeking girl into a loving devoted wife by its unborn, inaudible whisperings. Motherhood the fulfillment of her life, her part of the world's work. Long before it was born she had lived its life many times in dreams. She knew so well how to save it many heartaches she had had. And now in the very first week of its life it was blinded. Blinded beyond any hope. The boy that was to be the pride of her life, was and always would be a care and a burden.

Or again, ask the mother who holds another child. Not her first conception but her first child. Three times before she had tried to bring into the world a living amalgamation of her and her sweetheart's love. Each time the promise was greater as the time grew longer but inevitably the disappointment came. She miscarried. But this child her fourth conception, how carefully she had guarded it, how fearful she was each day of its intra-uterine life, that it too would not reach maturity. But it did and how expectantly she looked forward to its birth. The answer to her first half delirious question that it was a perfect child, filled her with a sense of contentment known only to a mother. But as she holds her two-weeks-old baby she knows in spite of all motherly tendency to overlook faults in her own, that it is not a perfect child. Its face is that of an old man rather than a cherub. A fan shaped eczema spreads from each nostril and it has "a cold in the head" in spite of all care. Ulcers and wheels appear here and there on the thin, wrinkled body.

Do these two children agree for or against the presence of a venereal menace? Have not these mothers sobs and heartaches gone unheeded long enough?

*Read before the Muldraugh Hill Medical Society.

A wedding in any family is a great event. The mother of the groom looks on the bride with a censoring eye. Is she thrifty and affectionate, will she take proper care of her boy and the home he is going to make? The father of the bride sees that the groom can support his daughter properly and that his family is one of good repute.

Much time is spent in the selection of clothes, the new home and its contents. The groom is a fine, big strapping, pleasant fellow. He was a little wild perhaps but since his courtship his conduct has been above reproach. Back they come from a glorious honeymoon to their home. The young husband has been alarmed once or twice by the appearance of a slight discharge but the all excited, rapidly learning little wife has made no complaint and he reconciles himself that there can be nothing serious until it is only a strain, that he has heard of so often.

A few weeks in the new home and a blushing happy bride is transformed into pale, stooped, lifeless, middle-aged woman. Vague pains and soreness have developed into a distress that makes her a bed-ridden invalid. An operation that unsexes her, makes her an old woman in a day, may be necessary to save her life. Instead of a loving, helpful partner the young husband has a neurotic invalid for a wife.

And so I could continue to relate actual happenings, each and every one different, for hours and hours. Granted, you say, this may be true, but it is the exception, not the rule. But is this true? Is it not rather the rule than the exception. The exception to-day is the young man who reaches the age of twenty-five without having been the host of a gonorrhoeal or syphilitic infection. A goodly majority of them, fortunately, have realized the gravity of these infections and have taken proper treatment.

But why is it possible that these diseases are so prevalent? The first thought and answer is prostitution. "Abolish prostitution and you will solve the question" we are told by enthusiastic, inflammatory, inadequately informed fanatics. Saner economists have said "segregate and regulate" prostitution. These have all been tried and have failed. Why? Because the sense of propagation is second only to the sense of self protection, we are conclusively informed by the fatalist. The inherent force of reproduction is so great that no civil or moral law or laws can control it and they hold up the history of the world to prove their statement.

This argument is strong I will acknowledge, I must admit that with all the efforts, and these have not been small, in the past, little has been accomplished. But my argument is

that these efforts have been made in the wrong direction. That the proper line of procedure is so simple and natural that it has been overlooked or perhaps slighted.

Man learned that the best way to check a rapidly advancing fire was to create in the path of that fire a space that contained nothing to burn. Life and energy was uselessly wasted in spectacular resistance on other lines but nothing was gained. An army that can not be defeated in the field can be starved into submission by siege. The process is slow, perhaps, but the results are sure and as it is with the big problem before us.

You can spend much time and money trying to regulate and segregate or abolish prostitution. You can paint horrible pictures and make dire threats from pulpit and press but in this manner you are fighting the results and not the cause of it all. How much would have been accomplished in the wars that have been waged so successfully against other devastating diseases as small pox, diphtheria, yellow fever, cholera, tuberculosis, if they had simply tried to regulate and segregate. The secret of success of these campaigns has been *prevention*, not the handling of the active infection.

The main factor in accomplishing prevention has been education. Mystery and misunderstanding are the two greatest foes we have to combat in any widespread campaign against disease. Venereal diseases are no exception. But the trouble with our present campaign is that it has been directed against the results and not the cause. What is the cause? Take the increasing prostitution, the increasing of venereal diseases, the increasing immorality and sift them all down to their basic element, down to the root that reaches far below any drouth line and it is there we find the cause. Hidden away by mystery, prudishness and misconception is the truth. And that truth is that we have been unknowingly but viciously teaching that sex is evil.

It would perhaps be interesting and entertaining to explain how this has come about but such an explanation does not lie within the limits of this discussion.

Here as in every malignant condition a vicious cycle has been established. Prostitution in the beginning made sexuality an evil. It converted sweet, sacred, natural instincts into lewdness, sensuality and licentiousness. These in turn made more prostitution and so the vicious cycle was started. And the public at large to-day is taking the view of the prostitute. They have allowed this debased element of society to define and defile the greatest force for good known to humanity.

The natural inherent feeling and instinct is not that sex is evil, but that it is sacred.

And the strange part of it is that this is not realized until the individual has reached maturity. No matter how lewd and licentious a life a man may have lived when he selects a woman for his wife and the mother of his children, when he sets about to accomplish the desire of his creator, he is inherently, unmistakably impressed with the sacredness of sexuality. And in every instance he is ashamed and remorseful of the things that in the past he has committed that in any way cast a blight or shadow on this sacredness.

Now, if this is true, and I feel sure that there are none that will gainsay it, should it not be given some weight? If this man, who has been taught from infancy that sex is evil, realizes in spite of all this training that it is sacred, doesn't it argue that if he had been taught from childhood that sex was sacred, that he would have lived differently. That he would have guarded rather than debauched it. Would not his view and opinion of a prostitute have been different, would he have risked venereal infection as he had. Threat and fear of consequences have had little or no controlling influence in sexual matters. Is it the threat of hell that makes biblical characters sacred to a child? I think NOT.

With the innovation of all the newer religious ideas, the respect for biblical characters is still evident. Even among the so-called atheists, free thinkers, Christian skeptics and even these in their bitterest criticisms do not lose the respect of the biblical character they learned in their early childhood.

Perhaps higher education, as they call it, has proven to them that Christianity is nothing but another mythology, but still these biblical characters remain as they were in early life even if they have ceased to surround them with their proper sanctity and sacredness.

Now if the manner of the birth of one child can be set down in writing and taught to the whole world in every language in a manner that does not shock, does not breathe of sensuality, why can it not be taught to every child, according to his understanding, the truths of sexuality. Begin the sex education of the child when you start his religious education, and in the same manner.

Until near the age of puberty sex distinction need not enter into this teaching. The generative organs of a child are primarily excretory organs and if instructed properly it will tend to lessen rather than increase to direct his attention to them.

But sex education must begin early to be effective. All too soon the young child gets an erroneous vicious idea of his sexual apparatus from vicious, older companions or from servants.

Ask any missionary who has been among primitive people teaching them for the first time a religion, who are the easiest converted and who backslide the least. It is the young children. Implant the proper idea before the wrong one gets a hold and the wrong one will never gain ascendancy.

It is a hopeless, useless task to try to segregate and regulate prostitution. It is impossible to abolish it. And by prostitution I do not refer only to that traffic which is carried on in public whore and assignation houses. I refer as well to the clandestine and illicit intercourse that is carried on in the very homes of the daughters.

The arm of the law cannot reach these. Venereal diseases are contracted as readily and as often in one instance as in the other. The time has arrived when we must recognize that every child in every home is subjected to these dangers. Innocently, perhaps, but the greatest of evils is the ones with the cloak of innocence.

You cannot abolish or even control these circumstances with threats or by fear. You have to stop fighting the results and get down to fighting the cause. How? First and before every thing else, the true definition of sex must be established. If the definition I have given it, that it is sacred not evil, is correct, then the task is an easy one. If this is not true, if this is simply a vamping of my own and sex is really and truly evil, then my ideas are wrong and useless.

But surely, that from around which emanates everything we have that stands for the best, love, morals, poetry, art, literature, music and even religion, surely the basis of all these can not be evil.

Teach then the proper attitude toward sexuality. This can be accomplished by calling a spade a spade and by preventing as much as possible a state of mysteriousness where sex is concerned. Explain birth and reproduction to the young child by biological and botanical examples he can understand. Show him that fertilization of an ova by serum is a beautiful, intricate process and not a lewd, shameful act. Explain that reproduction is a natural consequence of natural forces and not a mysterious, untalkable thing.

Then when the sex instinct becomes evident to him teach him and prove to him that by curbing and controlling it he is fitting himself for a man's work.

Is not this process a simple and natural one? Is there anything embarrassing or disgusting about such a procedure? And in the end, not this year nor perhaps in the next

ten years, but ultimately will it not do more to lessen prostitution, to increase morality and decrease venereal diseases than anything else.

SCARLET FEVER TREATMENT.*

By W. L. MOSBY, Bardwell.

The old saying that "an ounce of prevention is worth a pound of cure" holds good with scarlet fever as well as with all the acute infectious diseases. So prophylaxis is the physician's first duty, therapeutics afterwards. Immediate isolation of patient and watch carefully over suspects or those exposed, should be the rule, even where doubt or delay in the diagnosis is necessary, as the gravity of this disease is too great to disregard the right and health of others. An upstairs room, large and airy, provided with a fireplace for heat and ventilation with a temperature kept at from 60 to 65 degrees during febrile period is desirable, as it separates patient and nurse from the remainder of the family and affords quietude and contributes to restfulness and comfort of patient. Free ventilation without draft is essential, and may be secured by window-board or a frame covered with cheese cloth fitted in window. Screens are helpful to guard patient against drafts of air. Doors may be protected by hanging sheets, moist in 5 per cent. carbolic acid solution, or one to one thousand bichloride of mercury. All pictures, carpets and hangings, including unnecessary furniture and fixtures should be removed from the room, and the nurse or attendant should wear wash dresses and hair covering of oil silk or washable material. Before leaving sick room she should disinfect hands, face and neck with 2-1-2 per cent. carbolic solution or 50 per cent. solution of alcohol and gargle throat with Dobell or dilute liquor antisepticus solution. Physician should likewise use a long washable gown, closely fitting about the neck and reaching to the floor, head protected as directed for nurse, and exercise same care to disinfect all instruments brought in contact with patient. All dishes and utensils used in sick room should likewise be disinfected, as are clothing and bedding of patient, by soaking an hour or more in a 5 per cent solution of carbolic acid or one to one thousand sublimate or boiling. Room disinfection finally, is done by formaldehyde gas or sulphur dioxide being kept closed for a period of twelve hours.

PROPHYLAXIS BY DRUGS.

Belladonna was formerly recommended by the homeopaths and Spearisky claimed that arsenic was capable of preventing the dis-

ease but in view of further experience and observation their value is doubtful and should not be relied upon for this purpose.

J. Elgart, August *Medical Clinic*, Berlin, believes oil of eucalyptus is effectual in preventing scarlet fever and measles, and uses bags saturated with the oil around neck and the inhalation of 30 to 50 per cent. solutions of lime (aqua calcis) twice a day at first and then daily for four weeks. Milne, house physician for Barnade Home for boys used the oil by application to body from head to feet twice a day for four days and then daily for six more days and the application of a 10 per cent. phenol in oil to throat two hours first day and then at longer intervals using a swab the size of the child's thumb nail.

Was further claimed that no complications developed in those treated by inhalations of lime and that course of disease was much milder and shorter than with ordinary treatment.

This theory assumes that inhalation of infectious material is responsible for spread of these diseases and complete sterilization of respiratory tract with fumes of eucalyptus oil and other local methods mentioned will prevent its occurrence.

Preventive inoculation has not achieved much success as yet. Strickler injected children subcutaneously with mucus from nose and throat of patients sick with scarlet fever but disease was developed in a severe form.

Gabraitschewsky, a Russian physician, has used a serum of his own in about 50,000 cases with apparently good results, and so far its use is encouraging and deserves further investigation.

If the "ounce of prevention" has not prevented, we may judiciously select from the "pound of cure" on definite therapeutic indications, as we have no specific to offer in this disease. Patient should be placed in bed with a light cover during febrile period, and later guarded carefully against chilling of surface by drafts of air or exposure to prevent complications or sequellae, and carefully sustained on a milk or liquid diet, as largely milk as possible. An initial course of small doses of calomel frequently repeated followed with a saline is usually indicated and bowels should be kept responsive by hot intestinal irrigation 112 degrees F., which is of value as diuretic and stimulant assisting in elimination of infectious material. Salines may take the place of high enema if desirable. Baths should be employed daily, and more frequently if temperature is high, controlling it by this means if possible. Temperature of 104 degrees F., should be lowered by application of cold to head and chest and cold sponging as indicated. Cerebral symptoms

*Read before the Kentucky Midland Medical Society.

may be relieved by these applications and small doses of salipyrin, phenacetin or antipyrin. Insomnia and restlessness will be relieved by the same remedies. Should convulsions occur, the inhalation of chloroform and the administration of bromine salts will usually suffice. Hydrotherapy is beneficial in relieving nerve tension, lowering temperature, rendering patient more comfortable and relieving skin rash. We may assist in the prevention of nephritis by careful attention to the elimination by skin and bowels. Stimulants are unnecessary in mild infections but in severe septic or anginose forms, with weak or irregular heart action brandy or whiskey may be used to advantage and with quick pulse of low tension tincture of digitalis is indicated, one drop for a child four to six years old, four to six hours. Strychnine one two-hundredth to one one-hundredth of a grain may be administered where a nervous depression exists. In simple forms of pharyngitis a spray of Dobell solution or dilute liquor antisepticus every 4 hours is of value. Aural complications are better prevented by combatting nasal conditions which produce them, spraying and proper antiseptic application. An easy way of applying hot antiseptic solution to nose and throat of children is to place a soft rubber catheter on nozzle of fountain syringe with which we can easily douche nose and throat with boric acid solution or permanganate of potash one to eight thousand. Dermatitis and desquamation are to be treated by local application of carbolyzed salt solution or half saturated solution of boric acid followed with application of talcum powder, unless preference is given to ointments of a similar composition. Oil of eucalyptus should be considered in view of its reputed prophylactic properties. Colloidal silver ointment (ungt. crede) is thought to exercise an influence on the septic nature of the disease and influence condition of skin favorably. Patients should be kept in bed for from one week to ten days after all febrile symptoms have disappeared. In absence of complicating conditions this enforced rest will help to prevent their development. Also milk or liquid diet should be continued during this time. Prophylaxis also applies to complications and sequella as their development brings increased dangers to patient and responsibility to physician. High temperatures, quick pulse and unusual nervousness are frequent symptoms rather than complications in scarlatina and the ice cap with cold application, phenacetin and bromine salts with aconite will control these symptomatic manifestations.

Naso-pharyngeal involvement is almost uniformly present but not in a form suggesting dangerous involvement of nose and pharynx

and when either exists in such a condition it may be properly considered as a complication. Rhinitis calls for frequent syringing or spraying with warm solution, normal saline or permanganate of potash. Care should always be exercised not to carry the infective material into Eustachian tube thereby producing ear involvement adding another complication. Streptococic faucial involvement requires energetic treatment. Gargles are difficult to perform and better results are secured by topical application every 2 to 4 hours with swab of cotton on applicator, or direct spraying, the latter being our choice. Peroxide of hydrogen is cleansing and may be followed with permanganate of potash one to forty or sublimate solution one to five thousand.

We possess few better remedies than the old tincture chloride of iron, and it may be variously diluted with glycerine or water as per indications. Severe anginose symptoms aside from atomization with antiseptic solution and well directed local measures will require vigorous constitutional measures to support patient.

OTITIS.

Pain will be successfully relieved, for a time at least, with cocaine solution 4 per cent. or adrenalin which has a similar effect. Ear douche with hot normal salt solution will relieve congestion and often the pain will subside. Suppuration is frequent and when present paracentesis should be performed early, especially if bulging of membrane tympani is discovered and pain exists. After perforation the treatment for otitis media suppurata is carried out, the chief object being to sterilize canal and prevent mastoid complication.

CERVICAL ADENITIS.

This occurs more frequently after or with severe anginose involvement and may extend to pericellular structures. The application of ice bag over layers of cloth is useful. Flexible collodium painted freely over glands producing uniform pressure exercises a beneficial mechanical effect. Tincture of iodine in dilution or 10 per cent. ichthyol ointment is thought to influence morbid process favorably, and may be applied beneath ice bag. Pus formation calls for hot applications and later evacuation after it has formed. Tonics of iron and strychnine are generally indicated and well borne. Syrup ferri iodidi, I have found valuable.

ARTHRITIS.

Salicylates at present are our main reliance notwithstanding our ignorance as to etiology of this complicating condition. Acetylsalicylic acid may be required for pain combined with moist compresses applied locally. The local protective application to affected

joints may prove useful and give comfort to patient.

NEPHRITIS.

This is the "captain" of the many dangerous complications or sequella of scarlatina and sad pictures of its ruthless intrusion crowd our memory as we pen this paper. Unfortunately, we have found it easier to treat than to cure. Possibly our want of skill may explain the latter. An insidious foe ushered in by oedema of eyelids, hands and feet, accompanied by fever and a scanty highly colored urine with little or no nervousness may be our first intimation of its presence. Albuminuria is present. Warm baths two or three times daily, hot enemata of saline solution combined with mild diuretics, milk diet and absolute rest in bed should be our reliance. Severe cases with vomiting, convulsions and uremic complication will require hot vapor baths, 100 to 105 degrees for fifteen or twenty minutes and then envelope patient in hot blanket without drying, inviting free diaphoresis. Our chief efforts should be directed at restoration of functions of kidneys by diuretics, cupping dry or wet, hot baths, etc. Lumbar puncture and hypodermic administration of morphia and atropia have been used and recommended by Allaria and Sheffield, but personally I have had no experience in children with either. We may have nephritis occurring during third or fourth week of disease, with dropsical effusion into serous cavities with edema and uremic symptoms which will call for purgation, sweating and diuretics. All uremic symptoms occurring during a nephritis demand energetic treatment, the principle of which has been outlined.

Dropsy is counteracted by diuretin, digitalis, spartein, etc. Overtaxed heart may require digitalis, nitroglycerin or strychnine. Anemia calls for iron, preferably Basham's mixture, milk diet and absolute rest in bed a *sine qua non* in all forms and conditions of nephritis continued well on into convalescence.

Pediculosis Capitis. Treatment. Lay patient on back on bed with head over edge, hair lying in a basin beneath head on a chair. Pour 1:40 phenol solution over hair into basin and sluice backward and forward until hair thoroughly soaked, especially over ears and at nape of neck. Continue sluicing ten minutes, then lift hair from basin and allow to drain, without drying it. Then swathe head with thick towel or large piece of flannel and allow to remain for an hour. Finally wash hair or simply allow to dry. Method entirely safe with children of 5 years and over. Hair not damaged.—Whitfield.

FRACTURES OF THE LONG BONES.*

By P. N. BLACKERBY, Falmouth.

A fracture is a sudden solution of continuity in bone or cartilage. The term is commonly applied to bone. A fracture may be partial or complete; transverse, oblique or longitudinal; single, double, or multiple; simple, comminuted, compound and complicated. As you are all acquainted with the different forms of fracture, I will refrain from giving you a detailed description of each kind, as also the causes producing them which are many. The symptoms of fracture from which we make a diagnosis are loss of function, absence of normal contour, preternatural mobility, crepitus, and pain, shortening. As my subject is confined to fracture of the long bones which consist of humerus, radius and ulna of the arms and the femur, tibia and fibula of the lower limbs, and I suppose the ribs may also be included in the list, we will commence with the humerus. Fracture here occurs most frequently in its lower third, the proportion of fractures of the middle and upper being about equal. As it would make this paper too long to give a detailed description of the many fractures that may occur about the head and anatomical neck and lower end of this bone, we will content ourselves with the fractures that occur along the shaft of the bone and their treatment.

Fractures of the shaft of this bone, although chiefly caused by direct violence, are not infrequently the result of a fall on the hand or elbow, and may, in rare instances, be caused by muscular action alone. The displacement usually not very marked will be determined by the direction of the line of fracture. After bringing the ends of the bones in apposition by extension and counter extension and proper manipulation a cotton flannel roller or a common muslin bandage should be applied over a single layer of cotton batting which is placed next the skin. Now we have the choice of plaster of Paris or splints to hold the bone in place. I think the former preferable. Compression of the first bandage and of the plaster of Paris bandage should be snug but not too tight. The arm should be flexed with the forearm resting against the breast. The bandage should extend from the axilla to the metacarpal bones. As soon as setting of the plaster has taken place it should be slit throughout its extent, then if swelling enough occurs to threaten gangrene the former bandage is easily divided and compression relieved. The plaster of Paris dressing should be one-eighth of an inch or more thick. The arm should be held against the body by straps or bandage and retained in po-

*Read before the Pendleton County Medical Society.

sition for from four to six weeks. If splints are used we have the choice of a cup-shaped splint of either guttapercha, sole leather, wood or cardboard and using an extra short internal splint.

Fracture of the ulna in its shaft, occurs in its effort to ward off a blow, or as a result of a fall directly upon the bone. Diagnosis is not difficult, if compression be made by grasping both bones several inches from point of suspected fracture and pain and abnormal mobility be caused at that point, the diagnosis of fracture is fairly clear, if crepitus is obtained we can always be certain that a fracture is present.

As the treatment of fracture of the shaft of the radius is almost identical with that of the ulna they can both be given under one head, which consists after displacement if any has been effected and the broken ends in apposition, of two padded splints. The posterior, to extend from within one inch of the olecranon to the ends of the fingers, the anterior splint to extend from the elbow to the carpus, wrap each splint with a bandage to hold the wadding in place, apply splints so that the interosseous pads will push the muscles down between the radius and ulna. Then fasten them with a bandage made tight enough to prevent slipping. If in the course of a few days the dressing becomes loosened, it can be tightened by applying an additional bandage. The forearm should be carried in a sling. The treatment should be continued for about four weeks, when passive motion of the elbow and supination and pronation, should be made, and the dressing be readjusted for another week. This dressing will be found sufficient for all fractures of the shaft of one or both bones of the forearm.

In Colles' fracture the diagnosis is not usually difficult. The deformity which results from the backward and upward displacement of the lower fragment, the history of the accident and the pain at the seat of injury point to the character of the fracture. Crepitus may not always be elicited. The hand is directed toward the radial side, and the styloid process of the ulna is unusually prominent. After reduction has been accomplished a very satisfactory dressing is a snugly fitting gauntlet of plaster of Paris, extending from the metacarpo-phalangeal articulation to six inches above the wrist. The patient should be advised to move the fingers of the affected side a number of times a day, in order to prevent adhesion of the tendons to their sheaths. If plaster of Paris be not at hand, a posterior splint, padded, made of light board or heavy pasteboard, may be placed from the end of the metacarpal bones back near the elbow with a short anterior splint, extending half way in the palm of the hand, to several inches

above the fracture, nicely adjusted with a roller bandage or adhesive plaster. An extra wad of cotton placed between the splint and the dorsum of the metacarpus fixes the hand in semi-flexion, in which position the extensor tendons are kept tense and aid in preventing redisplacement of the lower fragment.

The shaft of the femur is usually broken by direct violence. Or indirectly by a force transmitted from below upward. In exceptional instances the fracture is caused by muscular contraction alone. The line of fracture is generally oblique, and the displacement is determined chiefly by the direction of this line. Diagnosis is not difficult. Preternatural mobility, crepitus, pain and shortening will usually determine the character of the injury. In the treatment of all fractures between the trochanters and the knee joint choice rests between the method by Buck's extension and the plaster of Paris dressing. When the fracture is below the middle of the thigh, the plaster of Paris dressing is to be preferred and may be applied without anesthesia, provided that by extension the muscles yield and the fragments come in apposition. The bandages need not extend higher than the level of the perineum, but should take in the foot. Whatever method is employed, immobilization at the seat of fracture should be maintained for five or six weeks.

Fracture of one or both bones of the leg are next in frequency to that of the radius, the clavicle, and the ulna. The upper end of the tibia is usually broken by direct violence, although a fall from a height upon the foot may produce a longitudinal or oblique fracture. The most common point of fracture is the junction of the middle and lower third. The fibula may be broken at the same level, or at a point above or below the line of fracture in the tibia, or this last bone alone may be broken. A fracture of the tibia near the ankle joint and a complete break of the fibula is of frequent occurrence. This is the well-known Potts' fracture and sometimes called railroad or street car fracture, since it is often caused by jumping from a car in motion. Potts' fracture is recognized by the peculiar eversion of the foot, the abnormal prominence of the internal malleolus, pain and loss of function. In most cases of fracture of one or both bones of the leg it is the best practice to reduce the displacement by extension and counter extension, and apply the plaster of Paris dressing at once. This should extend at least half way up the thigh, in all cases, in order to fix the knee joint. It is applicable to all fractures of one or both bones, from the knee down including the malleolus. Extension can usually be made from the heel and ankle by an assistant. A layer of cotton batting is placed next the skin, a dry muslin or

flannel roller, making firm compression, is applied, and the plaster bandages over this. The plaster cast should be split down the middle line, in front, to guard against swelling.

Compound fractures are treated by reduction of the deformity, free drainage where infection is evident, and strict antiseptic precautions. The plaster dressings should be made with a window for free inspection. Extension, if necessary, can be made in the usual way. Some years ago a mechanical apparatus was devised called an ambulatory dressing in which it was claimed the patient could move about as soon as applied, but as I have seen or heard nothing further in regard to it, suppose if used at all, it is confined in use to the hospitals. Laterally the open treatment of fractures has been done by some of the leading surgeons and was, I believe, first done by Lane, of London. This consists in cutting down to the bone at point of fracture adjusting the ends of the bone and fragments and holding them in place by means of plates of several different materials, screws, bone and ivory pegs, plates, etc. While this has been done in fresh fractures with sometimes, but not always, good results, I think this operation will ultimately be confined to those cases in which proper union has not taken place, and then only in hospital where the work can be done and watched by a competent surgeon with all the facilities of a perfectly aseptic technique.

Thanking you gentlemen for your forbearance with a not too interesting subject, I leave it with you, hoping to learn through your discussion of it a good many things I have overlooked or did not know.

Bladder Resection.—G. Kolischer, Chicago (Journal A. M. A., January 24), reports a case of malignant growth in the vertex of the bladder performed by denuding the whole anterior aspect of the viscus of its peritoneal covering and clamping the top of the bladder far enough down to insure the resection of the vertex and the tumor in healthy tissue, the clamp being applied under the control of the cystoscope introduced before the operation, which, however, in practice was found to be superfluous, as the incision could have been guided by palpation. The operation is described in detail and the healing was complete in three weeks. Three months later the interior of the bladder was apparently normal according to cystoscopic examination, except for a slight distortion upward at the seat of the excision, evidently due to an adhesion at the top of the bladder. While it is still too early to predict a permanent cure, the operation is a technical success.

THE IDEAL AND THE REAL IN THE PRACTICE OF MEDICINE.*

By G. G. THORNTON, Lebanon.

Just why it has never entered into the mind and purpose of someone abler than myself to discourse upon this theme I am sure I do not know, but possibly it has and that there is such an article in existence, that has escaped my attention. The ideal is doubtless the dream of the young man when he first resolves to take up the study of medicine. During his life up to this point, he has observed the active prosperous physician as he went about his daily work, and noted his close application to the duties of his profession and that people often spoke of his being so busy and so successful and that he received such good fees for his services. He has also noted the fact that he has seldom seen him about places of amusement, except when some one was unfortunately injured or was taken suddenly ill and he attributes his absence from these places to the fact that his calling has such a fascination for him that the pleasures of ordinary people have no attraction for him. He also remembers that when he has been out driving on good roads on pleasant afternoons to have frequently seen this busy doctor out, either driving a good stepper, or in his classy automobile, and notes further the fact that the community in which he sees him seems to be prosperous and that probably the pay is always sure. He sees doctors meet in consultation, he hears of their meetings at county, state, and national and international associations for the purpose of discussing how to raise fees and for having a good time generally.

He meditates on all this and as he sees it the doctor's calls come in just as he would have them, always on pretty days, good roads and where the pay is good, patrons are intelligent, the disease has nothing about it that is repulsive, the patient is pleasant and hopeful, and all he has to do is to spend a few pleasant moments and leave a few tablets or pills or possibly a prescription with intelligent friends or possibly a trained nurse and pass on to the next case which is just different enough from this to give variety and on and on, to the end of the day and at night he is just tired enough to sleep sweetly, and on the morrow to revisit these patients; finding that his medicines have been given and his instructions have been followed carefully and that some of the patients have so far improved that it will not be necessary for him to visit them again and when he returns to his office he finds enough new calls to take the place of any who have no further need of his services and these, too, are all of

*Read before the Muldraugh Hill Medical Society.

that same desirable type which makes the calling so fascinating. He finds that his medicines have always had the effects that he wanted and that he has told the patient and family what he expected and that his diagnosis and prognosis have always been correct.

To him, the doctor's life is one gala day of happy and successful experiences with few or no cares and nothing but pleasant associations. He never dreams of the anxieties of the young practitioner, about whom the people and especially the old doctors speak with an emphasis on the young doctor, about the days, months, and possibly years, that he sits in his office with patient solicitude and anxious expectation, for patients that seem slow to appreciate his ability, nor does he meditate on the self denial that he has practiced to reach this good day, nor does he think on the fact that during all of these years which he has spent in preparation for his life's work that it has been all out-lay and no income and that the investment may never prove an income producer, and can never do so, except while the doctor is working and that when he dies the investment is a total loss.

He and others never meditate on the fact that all of this time while an education was being acquired he might have been making money and putting it in some business where it would have been safe for himself, should health fail him or, for his family should he die. Not meditating on these things and with happy anticipations our young friend passes through medical college and with his high ideal we administer to him the Hippocratic oath and drill into him the rules of professional ethics. Let us now watch him as he meets and mingles with his professional brethren, and we will see him as his high ideals begin to give way to the real. We will see him locate in the town or community of his choice and there he will try to get in touch with his conferees and amongst them he will find one or more who boast of their fidelity to the high ideal in medical ethics, and he will note the fact that some of these speak in disparaging terms of all of the others whose name chances to be mentioned. He tries to find out something about a schedule of fees, and he finds that if such a thing exists it is observed as much in the breaking as it is in the keeping. He finds that one of the doctors who is generally regarded as being the most reasonable in his charges, has charged a man \$15.00 for simply tapping an hydrocele, and when he needed it done at a subsequent time and went to another man he did the same operation for \$5.00 and later another did it for \$2.50. He finds that when making visits to the country, one man will charge \$2.00 and another \$2.50 and at another place one will charge \$3.50 where one will charge \$5.00 and so on ad in-

finitum. And this is not always due to bad mathematics where the charge is made by the mile as estimated distances vary very much.

He further finds that a great many people—people who are about ordinary things reasonable and average people, have such faith in medical schools and boards of health, that they believe that inasmuch as all doctors have access to, and therefore read the same books and journals, and can procure the same medicines, that so far as ability is concerned they are about all alike and as they can judge a piece of goods and buy where it comes the cheapest by the yard or piece, so they will use the doctor who practices at the lowest price per visit or consultation. He tries to be accurate and scientific in his diagnosis, therapeutics and prognosis, but he finds that the man who treats most children's diseases as due to worms and teething, stands about as well and his opinion is about as much respected as the more scientific man. He finds that the man who always knows positively what the disease is with which his patients are suffering, be it biliousness, la grippe, catarrh, a little malaria, worms or teething, is often referred to as authority and his dictum goes at face value when, after exhausting all of his skill and ability, he still found himself in doubt as to the diagnosis. He explains various things in the symptomatology, and his theory of the management of difficult cases to his patients, and appeals to their reason for approval of his methods, and finds that people will tell him what good luck so and so has and that he always uses antiphylogistine in pneumonia, and that he said my stomach will not stand strong medicine. He finds that where he has made a diagnosis of probably appendicitis, and this man is called in he explains the condition to the family as being due to the fact that the bile is very acid?

When our young friend graduated he felt that the science of medicine was approaching perfection and that he could with the microscope, the ophthalmoscope, the cystoscope, the phonendoscope, the proctoscope, the thermometer, the sphymomanometer, the urinometer, the aspirator, by auscultation, by ocular demonstration, by percussion, by subjective symptoms and objective signs diagnose clearly and accurately all of the diseases with which he would ever come in contact. However, if he is honest with himself, it will not be long before he finds that in real experience, he meets up with cases that will be sick,—so sick that some of them will die and he will sign the death certificate, marasmus, uremia or, diagnosis doubtful. He will find that in spite of all his efforts, with scientific skill and instruments of precision, he will meet up with many cases where, if he is honest with himself he is bound to admit that the diagnosis is not clear,

or in other words that he don't know just what is the matter. Here he finds the careless and slipshod getting by with those ever handy terms, indigestion, neuralgia, biliousness, malaria, cold, lagrippe, womb trouble, and other terms that are common diagnostic dumping grounds, useful for covering up a great deal of inexcusable ignorance. He may, and doubtless will, call in a consultant in some of these difficult cases, and this man may be a specialist or a surgeon who greets him with the gentle information that if he had been called a little sooner, more could have been done, or, that the patient can only be properly treated in a hospital, to which our friend has no access, and here he sees his prestige and fee go aglimmering into the great ultimate. He hears much from the surgeon about cancer and other conditions being sent to him when it is too late with the implication that he and other general practitioners are to blame for such a state of affairs, and as he grows older and meditates on what he observes, and calls to his mind numerous cases of cancers that he has seen operated upon, where, the operation actually seemed to aggravate the condition and hasten the untimely end, he wonders just how much the surgeon has contributed himself to bring about the very state of affairs which we all deplore so much. The case that is operated on and not benefited, but that is actually hastened, becomes a living (so long as life lasts) walking, talking advertisement against the use of the knife in such cases that will have more effect to deter those whose attention is called to the bad results than all of the general practitioners and surgeons can ever overcome, and when they are dead, as long as the memory of friends is kept fresh the case is referred to by interested parties, with logic, that is so sound to them, at least, than no one be the general practitioner or surgeon can refute it. He sees the border-line cases where no one can tell positively whether the patient will be benefitted by an operation, but where there is a doubt that gives some grounds for hope, to which hope the patient is entitled. These cases he knows are entitled to be dealt with fairly, and given every reasonable chance, with a fair understanding as to what to expect as to the ultimate outcome. Even these cases that turn out unfavorable will inevitably create a bias against the use of the knife. He appreciates the fact that an early operation offers much and that a late one offers but little, but he feels and knows, that he is not wholly to blame for these cases reaching the surgeon too late, because often when the case is first seen by him it is even then too late for surgical interference.

Again in the very beginning of his career, when he has plenty of time to meditate and his income is hardly sufficient to meet his actual

needs and he meditates on how he may honestly increase same with the high cost of living staring him in the face, and with the general practitioner's fee practically the same for the last decade, he hears much of the division of fees and hears it loudly condemned by most all and knows it is practiced secretly by many, even those high up as general practitioners and surgeons, not always in St. Louis, Chicago and New York, but actually right at home. Not practiced openly, but by the general practitioner, notifying the surgeon that he has a case of appendicitis which he wishes operated on and that the surgeon may have \$100.00 if he will do the operation if he wishes at that fee and then, when the patient is ready to settle his bill the general practitioner collects the bill whatever he may choose to make it and pays the surgeon by his own check. The same course is pursued in hysterectomies and all major operations ad infinitum. If the surgeon don't come across, some other one will and as this man is doing a large practice he can make it worth while to the surgeon to sit up and take notice. With all of these things rapidly presenting themselves to the new man in the profession there is great temptation for him to accept the real as he finds it and to in a measure forget his high ideal. Nevertheless it is for the great body of the profession to maintain the real at as high a standard as it is possible, remembering that in every effort we have to contend with the human that is in all of us.

Recovery in Pneumonia.—From the study of the mechanism of recovery in pneumonia made with special reference to the crisis, in which he reviews the recent literature of the subject, L. Hektoen, Chicago (*Journal A. M. A.*, January 24), reaches the following conclusions: "The cure of pneumonia results from the destruction of the pneumococci in the lungs and in the blood. This is accomplished mainly by phagocytosis, probably to some extent also by antibodies in pneumonia, especially opsonins, and these appear to be specific for the group to which the infecting pneumococcus belongs. In rapidly fatal cases the defensive reactions are inadequate to destroy the pneumococci, which persist and multiply in the lungs and in the blood, and free antibodies have not been demonstrated in the blood. In favorable cases the pneumococci are destroyed more or less rapidly when the antipneumococcal reactions reach a certain height. We may assume this lysis results when the destruction takes place more gradually. Crisis is the effect of prompt destruction. In both cases, but demonstrated more clearly in crisis, there is an excess of free antibodies in the blood."

THE OPEN TREATMENT OF FRACTURES.*

By GEO. A. HENDON, Louisville.

It is not my purpose in this paper to discuss the relative merits of the two modes of management of fractures, open and closed. I am not proclaiming the superiority of either one over the other. They are not in any sense rivals for popular favor, since they are closely allied in the attainment of successful results. Neither one can replace the other. The open or newer treatment is not an usurper, but a tributary to the broad current of general good. No one is expected to adopt either method of treatment as a routine, but the wise course lies in the decision as to *when* the one or the other should be employed. I would approach the discussion of this subject by stating that anything I say in favor of the open method is not to be credited with a double meaning in that it might reflect upon the closed treatment. I also wish to classify some phases of the subject as settled and therefore not debatable. They are thus eliminated from the analysis: For example, every one knows that perfect functional results in fractures of the long bones is not incompatible with anatomic and cosmetic imperfections. We also acknowledge the fact as beyond dispute that the open treatment of fractures never will and never can become the universal procedure. The reasons are so obvious and numerous it would be unprofitable to name them. The real task before us is to aid in the selection of cases adapted to the open treatment and to stimulate interest in the development of knowledge pertaining thereto. I am not prepared to follow Mr. Lane quite so far when he says that public opinion and the law courts will compel the adoption of direct fixation in treating all fractures. But one has only to study the literature of the last three years to become deeply impressed with the rapid advancement of the open treatment. Darrach¹ reports 104 cases; Blake² reports 106; and Bartlett³ reports 80. There are twenty-five times as many articles in the literature as there was two years ago. Walker⁴, F. W. Huntington⁵, in discussion makes the statement that two years prior to the date of his speech only 18 per cent. of the leading American surgeons knew enough about the merits of the open treatment of fractures to discuss it, and now he finds on sending out a circular letter regarding this treatment that 95 per cent. of those to whom he applied agreed to the propriety and safety of the operative treatment of recent fractures in the hands of skilled surgeons. In 1911, at

Denver, President Harte, of the American Surgical Association, in his presidential address called special attention to this subject.

These advances have been made since Mr. Lane read his first paper before the Clinical Society in London, 1894, and in 1909 he read a paper before the American Medical Association that stimulated interest upon this side of the Atlantic. We know the question is agitating the surgical world at present as much if not more than any other subject. It cannot be arbitrarily dismissed or settled by any one man's experience or conclusions. It is a live issue and has been made so on account of the general average of results from the older methods of treatment falling below the mark of satisfaction. Whether it is the law courts, the X-ray, or surgical conscience that is the stimulus I do not know, but I do know there is enough of unrest to convince me that improvement in treatment of fractures is very much needed, and I believe the Lane plate offers up to now the most reliable device for direct fixation that is available.

In our consideration of the *open treatment* of fractures it must be clearly understood that the open method at present is a supplement to the closed, and in its present state of development is not a supplanting or rival measure. It is an amendment, not a substitute. Also, the open treatment of fractures and the treatment of open fractures are two separate propositions that are widely different from each other.

Despite having in Mr. Lane so powerful an advocate, I believe the open treatment would have long since languished, had it not been for fractures of the patella and olecranon. These injuries furnished examples of insurmountable obstacles to closed methods of treatment. Therefore, surgeons must persevere have persevered in their efforts to devise some direct means of fixation to meet the demands of such fractures. Again, some of the most formidable adversaries to the new treatment based their arguments upon their experience in the plating of compound fractures and cases of non-union,—the very conditions under which the plate is least apt to succeed.

The most favorable time for the operation is about a week after the injury. The most favorable cases are the *simple* fractures of the long bones. Probably the tibia or radius offers fewer anatomical difficulties than the other long bones. The most difficult object in the operation is to achieve the standard of asepsis required for this class of work. Even the gloved finger must not touch the wound, nor anything that has touched the hand must be allowed to come in contact with the wound. This is certainly a most difficult feat to perform, and can only be accomplished by much

*Read before the Southern Surgical and Gynecological Association, Atlanta, Georgia.

practice and a high grade of mental concentration.

In the earlier history of the open method much discredit fell upon it by reason of the abiding faith held by many surgeons in the infallibility of chemical antiseptics, and later on its popularity has suffered because of the failure of some of its patrons to realize the extreme refinement of asepsis essential to success. I have lately even seen the practice referred to as "a surgical aberration," probably by one who had failed to realize the importance of the details mentioned.

I have met with some difficulty in the operation in bringing the fractured ends of the fragment in perfect contact. It is the rule where the fracture involves a long bone to find a surprising amount of overlapping. It exists even in fractures of the tibia when the fibula is intact. Alignment can usually be achieved, however, by angulating the fracture outside the incision and buckling the ends of the fragments together. This maneuver is much simplified by smoothing the fractured ends with a saw. In so doing we gain a broad surface for contact without sacrificing enough bone to interfere with functional or cosmetic results. The advantages of broad smooth surface contact are important when concerned in the maintenance of alignment of fractures. One of the chief objects gained in this way is the certainty of bone against bone, or the elimination of that arch enemy of osseous union, the interposition of soft tissue. I have been much astonished at the revelation of the open operation, particularly the amount of injury done the soft parts by the jagged ends of the broken bone and the invariable presence of muscle or fascia or both impaired upon the sharp angles of the fracture. By sawing smooth the ends of the fracture, all this debris is removed en masse. In five cases of fracture of the tibia operated in this way I was fortunate enough to secure good results without using any external dressing except the usual gauze and bandage employed to protect the incision. And sandbags laid along either side. From the elevation reached through this experience I can fancy the dawn of an era in which broken bones will be joined together and left in their natural environment, like a severed intestine is now united and dropped back into the cavity with a feeling of security.

The leaders in this work have not, so far as I know, so expressed themselves, but I verily believe their ideal is enshrined in the achievement of a method by which fragments of bone may be held in alignment entirely by internal splint.

The phase of the subject which is of the most immediate concern is the selection of cases that demand open treatment. We shall

not discuss in this connection the class of men fitted to perform open operations on fractures, but will attempt to consider the proposition in relation to the ordinary every-day surgeon. Let us first notice the contraindication to the operation. It is not worth while to mention such obvious objections as improper surroundings or inability on the part of the patient to take anesthetics, etc. These conditions and similar ones are too well understood to necessitate discussion. Probably the strongest contraindication that might fail to be considered is the presence of infection or infectious material. In one of my cases that ended in disaster there was a compound fracture of the tibia that suppurated and failed to unite. After I thought all the infection had disappeared and there was only a small sinus remaining, I attempted the plating operation with the final result that amputation became necessary. In recent compound fractures the weight of opinion seems against plating, but experience and judgment are very conflicting upon that point. Huntington⁶ says in the next two years we are going to hear less said about placing foreign bodies in infected fractures. Darrach⁷ in a report of ten cases of compound fractures treated by direct fixation, cites four results as "good;" two were lost track of; one failure, and three were fair. Bartlett⁸ reports five cases—two healed by first intention; one granulated over plate; three got solid union, though the plate had to be removed. Plating a recent compound fracture is, therefore, a matter of delicate judgment and one's course is largely defined by the peculiarities of the case in hand. If direct fixation is especially desirable the methods of Lillianthal, Parkhill, or Freeman should receive special consideration in compound fractures.

The next phase of the discussion relates to the use of plates in cases of non-union. It is held upon good authority that the presence of the plate acting as a foreign body serves to delay union. Jonas⁹, in recent fractures. The deduction follows that the plate would by the same token act more as a hindrance than a help in cases of non-union. Our only case was one of five years' standing and involved the femur. The plate had to be removed eight weeks after operation and there seemed to be perfect union at that time, but the patient developed pulmonary tuberculosis and the union of bone dissolved before death, which occurred months after operation. Martin¹⁰ reports a case of radius and ulna fracture of middle third of shaft accurately plated more than a year, remaining clean and showing no union. "The long standing ununited fractures and vicious union are those which are most difficult, and in the case of the femur, dangerous. The internal splint is plac-

ed third by Martin in the list, for efficiency in treatment of non-union. I wish in this connection to quote from the report of a committee of the British Medical Association appointed to investigate the subject of treatment of fractures. In Article IX the report says, "Operative treatment should not be regarded as a method to be employed in consequence of the failure of non-operative measures, as the result of secondary operations compare very unfavorably with those of immediate operation. In order to secure the most satisfactory results from operative treatment it should be resorted to as soon after the accident as practicable." J. B. Roberts¹¹ reports a case in support of his contention that plating delays union, and points to reports of Darrach, Ashurst, Freeman and others as sustaining his position. The report of his own case, however, is not convincing. The question, therefore, will present itself in any given case of non-union whether it is better to expose the site of fracture, freshen the surface, remove soft tissue and immobilize the limb in external splint or resort to some means of direct fixation. I am of the opinion that in such a case the use of the bone plugs of Murphy should prevail. Percy¹² reported 14 cases of non-union in eleven of which steel plates were used. Three cases of fracture of the neck of the femur were treated by the use of the long screw. Union took place in all cases. This experience certainly speaks well for plating in this class of injury.

Let us now look at the positive side of the question and consider what are the indications for the use of the plate:

1. *In fractures that cannot be reduced by ordinary manipulation.* Such a situation develops frequently in impacted fractures and in fractures where one fragment is very much shorter than the other and overriding exists.

2. *Fractures that are difficult to maintain in reduction.* As in those where a process of bone is broken off; for example, a condyle of the humerus or the olecranon, and cases where the muscular attachment is so strong and the lines of force so directed as to pull the fragments apart, as in the femur.

3. Delayed union.

4. Where good cosmetic effects are especially desirable, as in the clavicle or forearm of young women.

5. In fractures communicating with a joint where imperfect alignment or over-production of callus is likely to seriously interfere with function.

The following indications are quoted from a report of American Surgical Association in *Surgery, Gynecology, and Obstetrics Abs.*, August, 1913, p. 170.

"The troublesome fractures that may with propriety be mentioned as probable candi-

dates for operative treatment are, (1) Fractures of surgical neck of the humerus. (2) The fracture of the lower end of the humerus. (3) Fracture of upper third of radius. (4) with dislocation of radial head. (5) Fracture of radius and ulna in shaft. (6) Fracture of upper third of femur. (7) Supra-condyloid fracture of femur. (8) Fracture of tibia and fibula near ankle."

Mortality. In my own work there has been one death which occurred twenty-four hours after the operation, but which could fairly have been attributed to associate injuries. J. B. Roberts¹³ collected reports of nine deaths following operations, but does not show a direct connection. Blake¹⁴ does not record a death in 106 operations. Bartlett¹⁵ records two deaths in 80 cases. Darrach¹⁶ in 104 cases reported has no record of death. I feel assured, therefore, that mortality of the operation per se is a negligible quantity, especially if resorted to in the recent period after the fracture and performed under the proper restrictions.

BONE PLATING—REPORT OF CASES.

The first was for a fracture of the femur at the junction of the middle and upper third and had occurred five years previous. The recovery took place with about three inches overlapping and non-union, in consequence of which a false joint existed. A month before admission the man was knocked down and trampled upon in a fight. The ligamentous formation of the pseudo-arthritis was broken. The subject of this report was a negro man thirty years old, with very low mental development even for a negro. An operation with the Lane plate was undertaken. The site of the fracture was exposed through a long incision upon the external lateral aspect of the thigh. The fragments of bone were found overlapped and separated laterally as much as four inches, a large cushion of muscle and fascia intervening. The strongest impression I had from this case was made by the extent of lateral separation as compared with the overlapping of the fragments. In fact the fragments could not be accurately described as being overlapped because they did not touch each other at any point. The ligament joining the two ends was composed chiefly of thickened periosteum, with some bone deposits in its substance, sparsely situated. The ends of the bones were sawed square and the plate fastened in position. The wound in the soft parts was closed with a single layer of deeply situated silkworm gut. The patient was given a Buck's extension with a five pound weight attached to make him lie quietly.

Affairs progressed favorably until three weeks had elapsed, when suppuration mani-

fested itself. The wound was opened and irrigated daily. At the end of eight weeks the plate was removed and bony union seemed at that time well formed. After four more weeks I am informed by Dr. Zimmerman, who succeeded me in the ward, that the union had since been dissolved.

The next case was one of compound fracture of both tibiae and fibulae, resulting from an automobile accident. The limbs were dressed in plaster of Paris, with openings over wound in the soft parts. At the end of three weeks this dressing on the left leg was removed and no union had taken place. A Lane's plate was applied at the operation. We were much surprised at the lateral separation of the fragments and the amount of muscle and fascia intervening. The ends were squared and fastened with a plate. One week later the opposite limb was treated in the same way. While both fibulae were involved only the tibiae were plated. The results in this case were ideal. No form of fixed dressing was used. The limbs were laid upon pillows. The wounds healed by first intention and the plates so far have not given any trouble.

The next case was patient No. 3 and operation No. 4. A boy of seventeen suffered a fracture of the lower third of the tibia caused in jumping over a ditch. The deformity was much greater than one usually sees in such cases and could not be reduced. The X-ray machine being out of commission at the hospital no radiograph could be taken. The fracture was exposed for plating, when the reason of the unreasonable deformity was plain. Both the leg bones were broken, the fibula was wrapped once around the tibia, the lower end of the upper fragment of the fibula presenting upon the inner side of the tibial shaft. There was considerable lateral displacement. The upper end of the lower fragment of the tibia was buried in the muscles of the calf. The ends were sawed smooth and plated. This boy got out of bed the night after the operation and stood on the broken leg with the result that it bowed backward. He refused to have it corrected and expressed himself as satisfied with his condition. Up to last accounts his plate has given no trouble.

The fourth patient and fifth operation was in a man who sustained a fracture at the juncture of the lower and middle third of the tibia. After eight weeks in plaster of Paris the fracture seemed to be united and there was no deformity, but after placing a little weight upon the leg it began to bend with the convexity outward and caused him great pain. Plating was proposed and accepted. Exposure of the fracture showed lateral displacement and ligamentous connection. The ends of the fragments were squared and plat-

ed. The result was all that could be desired. Up to now the plate has given no trouble.

The next case was a compound fracture of the tibia middle third, which became infected. The case was treated in a fenestrated plaster cast about eight weeks. The wound in the soft parts healed down to a small sinus that would scarcely admit a knitting needle and it was thought all the infection was overcome. No union of bone was apparent. Plating was advised and accepted. The limb was prepared and the sinus wiped out with iodine the day before. As the internal aspect of the limb had been the site of trauma and the skin was thin and delicate the incision was made upon the outer surface and the bone was exposed through the interosseous space. This proved a serious error, as considerable hemorrhage was encountered and controlled with great difficulty. The fragments were found overlapping and without osseous union. Plating was done. The case was infected either from a haematoma that formed in consequence of imperfect hemostasis or from the sinus remaining after the original injury. The plate had to be removed four weeks later and a splint applied.

The next case was one of comminuted fracture of the tibia with injuries of the thorax, the exact nature of which were not determined. The man died forty-eight hours after the operation, presumably from his internal injuries. He also had a broken clavicle, which was not plated.

I have had three additional cases since. One a Collis' which I found impossible to reduce under anaesthetic and did well after plating. One a simple fracture of middle third of Tibia, which also did well. One a compound comminuted fracture of the tibia and fibula which had to be amputated six weeks later on account of infection.

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Scarlet Fever. Treatment. Salvarsan used in 109 cases. Striking effect on throat symptoms, especially in necrosing form, noted. Indicated in severe toxic forms especially. Good results even upon local application. Neosalvarsan not suitable.—Ochmann and Schrieber.

PUERPERAL FEVER.*

By ROBERT T. HOCKER, Arlington.

Puerperal fever is an infectious disease. In the large majority of cases it is caused by the septic inoculation of wounds, resulting from the separation of the decidua and placenta; and from their passing of the genital canal, in the act of parturition. As already indicated, there are abnormal conditions which occur during pregnancy and even in non-puerperal conditions that sustain a causative relation to the disease.

Zymotic fevers may cause in the pregnant woman, the same inflammatory lesions that are ordinarily associated with puerperal fever. Notably, we think, entero-colitis and dysentery.

A febrile paroxysm from any cause is exceedingly unfortunate for any wounded surface. This idea is proverbial in surgery. For the greatly diminished frequency of this heart-sickening trouble we are indebted to the immortal Joseph Lister, who in 1877, after ten years of patient scientific research demonstrated the great principles and practices of asepsis and anti-sepsis in the treatment of diseases. Now it would not only be considered but positively denounced as criminal, should we fail to meet our responsibilities in this way.

It is sad indeed, realizing as we do, that among the poor (many of them thank heaven, are God's poor) are yet dependent on the doctors, unworthy of the noble title and even worse illiterate mid-wives, who know nothing of anatomy, pathology, asepsis nor anti-sepsis. We will not attempt to draw a picture of their revolting management of their cases; it is too sad for contemplation.

Only twenty years ago, one-tenth of all deaths among women between fifteen and forty-five were due to child-bearing and one twentieth to puerperal sepsis. Surely nothing reaches the nobler emotions of the soul than that of a mother's life being the price of her bringing a child into the world. The mortality has been greatly reduced by the legal restrictions of the practice of medicine, giving us a better class of physicians and the increased number of extreme cases and many of the indigent being removed to hospitals, where nothing is lacking, which will contribute to their well-being.

Boehr's statistics show that one thirtieth of all married women in Berlin die in childbirth. We always expect death to exact a heavy toll from the extremes of life, but here it is our child-bearing women upon whom we are dependent for the perpetuation of the race, who

are carried away in the prime of life, in the beauty and strength of young womanhood.

The primary lesions are various and the classification includes, when we follow its ramifications, inflammations, superficial and ulcerative, of the genital canal. The uterine parenchyma, peritonitis, phlebitis, and pure septicemia.

Hippocrates, Galen and even Ambrose Pare and Sydenham, taught that the fever was caused by the suppression of the lochia and this theory was not found to be fallacious until 1801, when Bichat demonstrated that abdominal effusions in peritonitis were found in the male. The prevailing bacteria in puerperal fever are diplococci, spathylococci, but the most important factors are the streptococci. The bacilli are the offspring of putrefaction. They attack only dead tissue, which contains ptomaines and these enter the circulation producing systemic poisoning.

The period of incubation is brief. The indications of sepsis usually occur within three days of accouchement; after the fifth day attacks are rare; and after the seventh day we may feel pretty sure that our patients are safe.

Septic symptoms occurring within a few hours after confinement indicates infection prior to or during labor. In the great majority of cases the disease is ushered in by chilly sensations or a rigor, followed by a temperature from 103 to 106.

Phlebitis and pyaemia are indicated by repeated chills.

An elevation of temperature does not always indicate sepsis, as it occurs not infrequently where conditions are normal.

A pulse from 80 to 90, disturbed sleep and extremely violent after-pains are decidedly suspicious of pelvic peritonitis.

The initial chill is sometimes erroneously attributed to engorgement of the breast, with the above symptoms with tenderness of the sides of the uterus should be considered danger signals, and we should visit such a patient twice daily until there is decided improvement. The pain is lancinating as in all serous membranes. After pains occurring in the primipara or after the third day, are very suspicious. General peritonitis usually begins with the ordinary symptoms of pelvic inflammation, but the tenderness at first confined to one or both sides of the uterus gradually extends over the entire abdomen. The pain is violent and of a colicky character. It is intensified by slight bodily movements, jarring the bed and even the weight of the bed clothes.

From the accumulation of gases the abdominal wall becomes tympanitic and paralyzed. The fever usually, but not invariably, begins with a chill, with a temperature of from 103

*Read before the Carlisle County Medical Society.

to 106, pulse small and hard, ranging from 120 to 160 per minute.

As late as 1868 Meggs and Hodge, and there were no higher authorities on earth then than they, denied in toto the theory of inoculation. They insisted that physicians could never become, especially under the extremely interesting circumstances of gestation and parturition, the ministers of evil. Would to God that the views of these great teachers whose reputations were established in area exactly equal to that of civilization, could have been true. Many a heart-ache would have been spared the noble members of our profession.

Fortunately, investigation has brought to light truths that have been instrumental in saving the lives of mothers and preventing the wrecking of happy homes. Our own loved and gifted W. H. Wathen, took the position that puerperal sepsis never occurred, where proper care was observed by the accoucher. Only a small minority of the members of the Jefferson County Medical Society where these ringing words were uttered endorsed this extreme position.

That the ordinary carriers of infection are unclean hands, instruments, clothing, pads, washing material, cloths brought in contact during and after labor with the genitals of the patient is no longer called in question, by any intelligent practitioner.

About two-thirds of all cases occur during the winter months. It behooves every one of us to be continually on our guard against the disease. In addition to what has been already mentioned, make no more examinations than are absolutely necessary.

An interesting fact has come to light within about eight years, that is that only a small per cent of cases afflicted with gonorrhoea develop sepsis. Fortunately the lochia is antiseptic. The enceinte female ought always to be under the watch care of a physician. Anemia calls for iron and other tonics. Good blood is the best of germicides.

A doctor who is dressing suppurating wounds, who is attending cases of erysipelas, scarlet fever, diphtheria or other contagious or infectious diseases should not attend obstetric cases if he can avoid it. If he is obliged to treat such cases he should take a full bath, carefully disinfect his hands and arms, and use sterile rubber gloves. While streptococci serum is recommended as a prophylactic agent by high authorities Edgar says that streptococci have been more successfully combatted without the aid of serum than with it.

Supportive measures are indicated, whiskey, brandy, strychnine and digitalis as indicated, quinine in properly selected cases. Utero-vaginal drainage is very important.

The uterus in its engorged state is sometimes pressed against the pelvic floor and prevents the escape of the lochia. The detained lochia is a breeding place for bacteria; and favors the development of septicemia.

Gallant recommends a cervical drain inserted into the cervix.

Leopold reports five cases operated on within two or three days after the appearance of the signs and symptoms of acute general peritonitis with three recoveries. It is best to operate not later than the third day. Douglas' cul-de-sac should be opened to get drainage through the vagina. Drainage is the important factor in cases of streptococci origin. The antiseptic streptococci serum gives very satisfactory results. It should be given early.

Cold applications carefully used are preferable to phenacetin or other antipyretics on account of their depressing effects on the heart. Later hot applications are useful. Abscesses must be lanced and carefully drained. Endometritis is treated on general principles. Retained placenta should be removed by the fingers if possible. Mild cases will yield to the use of ergot, ice and vaginal douches. If lochia is offensive use hot carbolized water, one to seven thousand, or corrosive sublimate, 1 to 2000.

In severe cases uterus should be irrigated and treatment repeated if necessary, with a fifty per cent. solution of alcohol.

I used echinacae with good results in one case of septicemia, patient a very delicate woman, with apparently considerable poison in her system, recovered. I used other constitutional treatment.

I am painfully conscious that this is a very imperfect paper, but the subject is so comprehensive that I have only attempted a synopsis of it.

It is a fearful malady with which to contend, and our patients are entitled to our closest attention and deepest solicitude.

Sciatica.—Treatment. Good results from X-ray treatment in 11 out of 13 cases. Rays directed usually over lumbar region, sometimes over nerve itself. Small doses only. In cases resisting ordinary medical treatment and galvanic current, radiography should always be tried, especially when sciatica due to compression of nerve-roots.—Delherm.

Marked improvement in 2 cases after a few daily subcutaneous injections of 1 c.c. (16 minims) of 1:1000 epinephrin solution.—Gaisboek.

X-RAYS IN TREATMENT OF FRACTURES.*

By B. W. BAYLESS, Louisville.

Your secretary suggested to me as a subject, "X-rays in Relation to General Practice," as this is becoming a broader subject every day, now covering diseases of the head, chest, abdomen and bones. I thought I would confine myself to its relation to fractures. True this is more in the line of surgery but anyone in practice outside of the large cities comes in contact with fractures every few days.

In every case of injury where a fracture is suspected an X-ray examination should be made, one before and one after dressing. The examination before dressing will show if a fracture is present, the direction of the fracture and any loose fragments. The one after dressing will show the permanent relation of the fractured ends of the bone also if there is any angular deformity at the seat of fracture. If the patient is not seen soon after the injury it is sometimes with difficulty the fracture is made out, due to the amount of swelling and the pain caused from the injury and manipulation. In these cases with a great amount of swelling, even under an anesthetic it is hard to say if the bones are in perfect position. If a plate is made before dressing it will save a great deal of manipulation as it will show exactly in what direction reduction will be most easily accomplished.

A great many fractures are overlooked if an X-ray is not made as there may not be any deformity and the fragments may not be free enough to obtain crepitus, this is the ease in longitudinal and even in transverse fractures. Also there may be only an elevation of the periosteum but it is best to know the exact amount of damage done. It would not be best for the patient to use the affected parts even if there is no displacement as it would give the patient a great deal of pain on movement and the fragments may become separated; then they would not unite as rapidly as if in a position of rest and also the callus would be much greater if not held in the proper position.

A picture before and after dressing is protection in cases where any dispute arises later, for union will not always take place as in patients with syphilis. The jury only sees the present condition and position and not the position in which it was placed at the time of treatment unless you have preserved the pictures made at the time.

Fractures of the long bones when displacement is present are easily diagnosed but after

swelling has taken place and manipulation adds to it, it is not always an easy matter to say if the bones are in the best position even if the diagnosis has been easy. If a plate is made after dressing and the position is not the best another attempt can be made immediately and not wait until the swelling has subsided to see the position as then the callus has formed and it is a very difficult proposition to get a good reduction with callus around the broken ends and also the callus may involve a nerve when the position is not good.

In fractures of the small bones of the hand and foot the cardinal symptom of fractures, crepitus, is not always readily obtained so it remains for the X-rays to show the damage and position of the bones.

In comminuted fractures a piece is broken from the body of the bone and if separated from same will not unite and if not removed will give rise to a great deal of trouble, a fistula will form and the ends of the broken bones may become infected and amputation may then be necessary.

It is always better to take two plates, one 90 degrees to the other as the two will show displacements and fragments in all directions and if necessary more plates can be made at different angles.

Often in cases suspected of Colles' fracture, you will find only a lifting of the periosteum due to hemorrhage, this causes extreme pain, great swelling and discoloration.

In injuries to the spine it is very hard to be positive as to the exact damage as the manual examination is very different. There may be a dislocation of one vertebra and a fracture of another several vertebra from the dislocated one. In a case like this the dislocated vertebra would probably be operated on, as it would be more marked, to relieve the pressure symptoms and the fractured one overlooked, which may be causing just as many or more symptoms.

Fracture of the skull both of the base and vault, are now more easily recognized with the X-rays. An injury to the skull especially with a blunt instrument causes a great deal of swelling which makes it very hard to diagnose a fracture if present. A fracture may run some distance and the resulting hematoma caused by it produce grave pressure symptoms.

Depressing fractures are shown and exactly how much depression is present. The depression may involve only the inner table, the outer table remaining perfectly smooth with the surrounding bone and of course nothing to be observed on palpation.

When a fracture of the base extends into any of the cavities which normally contain air are easily diagnosed as blood fills the cav-

*Read before the Oldham County Medical Society.

ity displacing the air which is readily seen with the X-rays.

In injuries of the shoulder, fractures are not always present when suspected, but the X-rays show something that can cause as much pain as a fracture. These are the concretions in the subacromial bursa which are oval or round, and always occur on both sides, so if found on the injured side always look for them on the opposite side, and do not take them for fragments of bone. In abducting the arm they get caught between the greater tuberosity and the acromian process, similar to a mouse cartilage in the knee, except they are not in the joint. You also find concretions in the bursa on the inner side of the lower end of the femur but not so frequent as at the shoulder.

WHAT SHALL THE COUNTRY DOCTOR DO WITH HIS PATIENT?*

By E. J. BROWN, Stanford.

The object in writing this paper is to call the country doctor's attention to the fact that he "the country doctor" is sending or permitting by his own suggestion, his patients to go to the so called "city specialist," thereby losing both the confidence of the patient in him as a physician and surgeon and also the money that is so justly his. We have none but the kindest feeling for the city doctor, and what the city has given us as a profession, but we owe something to ourselves and our patients. The country doctor here alluded to, is the one who has spared neither time nor money to equip himself with the very best instructions, libraries, instruments, laboratories and all modern devices for the purpose of diagnosis and treatment. Have not clinical and didactic work been just as much to him as his city neighbor? His text books are just the same. The X-ray, microscope, the cystoscope or the phonendoscope reveal the same conditions to him as to the city man. Osler, Price and men of that class, who have made the profession something of which to be justly proud, have said the most accurate diagnosticians were country doctors. The country man keeps the pregnant woman under observation during her pregnancy, and is the "all and all" when she passes through the ordeal of childbirth. He circumcises the baby and guards it through its tender years, through the diseases of childhood with the vigilance of a mother. He attends any and all the family through pneumonia, typhoid, dysentery, meningitis, fractures, dislocations, sprains and bruises with perfect satisfaction to all concerned. Why can he not do the minor work which has much lower mortality than the dis-

eases mentioned, with satisfaction? The true and only answer is: He lacks confidence in himself. Appendicitis, cholecystotomy, prostatectomy and all abdominal operative lesions have much lower mortality than pneumonia, typhoid, or diphtheria, yet the so-called "specialist" is never considered in the latter, but most always in the former cases. For simple operations which can often be done in the office are frequently rushed off to the city to be separated from their minor ailments and their major filthy lucre. Varicocele, hemorrhoids, varicose veins, bone lesions, adenoids, pathological tonsils and many others too numerous to mention, which any man with good surgical skill and technique can perform as well and with as good results as any other man. These simple things take thousands of dollars out of the pockets of worthy country men, where it properly belongs.

The lack of confidence and getting in the habit of suggesting to the patient to see the city man, educates the people to expect it for any and all conditions before suggested; and no one to blame but the doctor for starting the habit. How much confidence from the people have we lost, and how many patients, just by suggesting to them, when in the city to drop in and let Dr. So-and-So look them over, only thinking of the city man strengthening their confidence in you; and giving him a five or ten to increase his love for you; but not so, he pockets the fee, fails to write you expressing his gratitude, but does not forget to prescribe for your patient and keep up correspondence with him, about his or her present, past and future ailments, while you are very deservedly left in the cold for your silly courtesy.

Let us be far from believing that any but a small per cent. of city men are disreputable enough to split fees or take your patient, but that is not the idea intended, they are yours, by virtue of confidence they have in you—"until you have sent them away and caused them to doubt you," they are yours because you know as no other one can their idiosyncrasies, they are yours because you are entitled to the money there is in it. We doubt whether it is fair for the city doctor to say if this advice is dangerous, pernicious and malicious, because it is to his penurious advantage to encourage us that we are incompetent to do work of this character. But we want a good, free expression from the country men, as to whether we are right or wrong.

Let's make no mistake, or do any injustice to any concerned, if possible to prevent it. We have described the class of men to do the work, now say—am I right or wrong? If wrong I am forever silent, if not, now to the remedy. What steps shall the country doctor take to correct the already existing trouble?

*Read before the Lincoln County Medical Society.

The man in the country who is absolutely alone, must show more self-confidence, keep up his reading and post-graduate work and get "busy" and do the work and get his lost confidence on the part of the people and himself restored. To the men in the country towns it is very easy. Where they have hospitals already there is no suggestion to make, only do the work when it comes up. The most to be said is to the men in a country town where there are, say, from three to seven doctors and no hospitals. The little imaginary jealousy that exists must be removed and realize you are friends. Get together, give each other consultations, sustain and support each other's opinions, thereby strengthening each other in the eyes of the public, and keep your patients at home. Where several men are in the same town, if you choose, let each one by mutual agreement, in his post-graduate work, look more especially after certain lines and better familiarize himself with that particular work. For example, one general surgery, another genito-urinary, gynecology, another vaccine and serum therapy, and so on. If it is impossible to have a thoroughly equipped hospital, improvise one by renting a suitable house, get a mature intelligent woman, who can be taught cleanliness, asepsis and anti-sepsis, fit up a few beds and run it at a very low cost, something on the order of a large family. Splendid work can be done and great results achieved if this method is adopted. You will know what wonderful results are gotten in country homes, with improvised operating rooms and paraphernalia. This is only an outline, to get an expression and if we are right we will give you a sure enough paper on the subject; if not right this is a plenty.

This is not any censure to the city doctor. I would not say one word except to commend him, because the best friends we have are city doctors, but let's be honest. Have I not spoken the truth?

Dysentery.—Treatment. Measures useful in form of dysentery sometimes epidemic in institutions discussed. 1. Isolate patient and put to bed. 2. Give calomel, 1 grain (0.06 Gm.), followed in two hours by mixture of dilute sulphuric acid, ziiij (12 c.c.); compound tincture of cardamom, zzzj (30 c.c.), in water, enough to make zzzviii (250 c.c.); zj oil, 1 tablespoonful every two hours; no other food. 4. Boiled water at frequent intervals. 5. In the aged, debilitated or arteriosclerotic, 1 teaspoonful of brandy every three hours.—Jones.

Eclampsia, Puerperal.—Treatment. Report of 11 cases in which squeezing out of colostrum from breasts, thoroughly carried out, appeared usually beneficial.—Walcher.

HYSTERIA.*

By J. W. HILL, Frankfort.

Modern neurology insists that the term hysteria must mean something definite. That the old composite picture of hysteria be discarded and a new picture painted which delineates a syndrome simplex in which can be seen a definite clinical entity.

Hysteria is one of the so-called functional, psycho-neuroses. The term functional, while vague and elastic, is in general use and serves a practical purpose, but the line of demarcation between the organic and functional is after all arbitrary and assumed.

And in the passing of old ideas and hypotheses it is becoming evident that all expressions of energy whether psychic or physical involve and are the result of organic but subtle changes in neurotic and cellular structure. Psychology assumes that the mind is divisible into three elements, viz:

Intellect, emotion and volition, these elements can be likened unto a musical instrument of three strings, each string having its individual limitations and essential to the whole, yet, in associative function infinite, when energized by the master artist which is neither one or all of the psychic elements but is the unseen and unknown force of all vital phenomena.

It is apparent that a morbid manifestation involving all three of the psychic elements constitutes a true psychosis or insanity, but a morbidity involving only one of the elements is the so-called functional psycho-neurosis.

To define the term hysteria has been the task of modern neurologists who assert that hysteria is primarily a disorder of volition or will. The occasion and limitations of this paper precludes an exhaustive analysis of the components of will. Suffice it to state, that will is the supreme principle of mind, it means power, action and energy. It is the universal initiative, it perceives and compares ideas, differentiates pain from pleasure; it originates desires and determines choice. The underlying cause of all morbid expressions of impaired or perverted will are due no doubt to cortical instability of unknown pathology which permits a sensorial registration in the great storehouse of consciousness, out of time, tune, and intensity to become the dominant note. This discordant note is suggestion, the word comprehending a state of receptivity in the conscious mind which sinking or repressed into the subliminal, there to become active and assertive in varied manifestations when volition or conscious will fails.

It is this intrusion from the subconscious, this forced suggestion which Babinski calls

*Read before the Kentucky Midland Medical Society.

"pithiatism" which, he asserts is the cause and cure of hysteria. The syndrome is completed by appearance of motor, sensory and psychic errors, these perversions or errors being the result of defective volition. From this it is assumed that the mind has a material basis not limited to cerebral tissue alone, as shown in the explosive motor storms, the riot of emotions and the various sensory perversions.

It is not within the scope of this brief paper to recite the text-book symptoms of hysteria, the disease must be differentiated from disorders of intellection and emotion. The sum and substance of the symptomatology of hysteria reduces itself to "retraction of the field of consciousness" plus an undue susceptibility to suggestion, the contention that this "suggestion complex" is in effect a psychic trauma of sexual origin is a plausible deduction. It logically follows that the sexual instinct being a predominant one, second only and closely allied to the great instinct of self preservation, should so crowd the afferent pathways to the seat of consciousness thus preventing the proper and orderly registration of these sensoria, this offending complex is an association of ideas, one of which is painful and dominant, which is repressed or submerged into the subliminal by the conscious mind. However, this sexual hypothesis can not be made absolute, it is irrational to assume that all painful or depressing ideas comprising this complex must necessarily and invariably be of sexual origin.

Relative to the various methods of psychotherapy, the numerous methods advocated indicate that there is no specific. One of the methods of treatment is founded on a curious anomaly or paradox "the hair of the dog is good for the bite," in other words the disease is caused by suggestion and cured by suggestion, the method is not new, simply newly exploited. The suggestion method comprehends a larger conception that mere asservation, it includes moral suasion, instruction, assurance, plus an element of faith, in short every element necessary to the make up of a forceful and convincing personality. However, it is only an aid or adjunct that all physicians employ, its results are overstated and exaggerated. It is the "Emmanuel specific" for all ills, in no wise different from all nostrums save the novelty of its exploitation. Likewise the method of hypnotic suggestion has been repudiated and discarded by reason of the fact that the success of the method depended on the subserviency of will in individuals whose primary trouble was defective will. The analytic method of Freud has its enthusiastic exponents. The method assumes that the causative psycho-generie error is stored somewhere in the field of consciousness and

by a process of uncovering, the occasion and nature of the complex is revealed, subjected to, and revised by rational thought.

Personally, I have not had the temerity to employ this method in but few instances. I am sure that some of my patients would resentfully have declined to accept me as their confessor. The method is complicated, demands a vast amount of patience, it is not free from outward results in that there is danger that a phobia or obsession be implanted.

The oldest and perhaps most generally used is the "white lie" method. This consists of deception, evasion and placebos, the method fails as other methods do at times, due in part, perhaps to the failure of personality of the doctor and the reluctance of physicians to make an outspoken and candid diagnosis of hysteria. There are other reasons to deter the doctor and negative his efforts:

1st. A considerable number of people yet regard the term "hysteria" as an opprobrium that it implies a silly affectation, which is resented as a gratuitous and unsympathetic reflection. This leads to the assumption and usually positive assertion that the doctor is ignorant of the true nature of the trouble. Especially true is this when dealing with hysterical crises. It is indeed difficult to successfully assure the patient and friends that a partial blindness, a loss of sensation in segmental areas, rapid breathing, and a sense of suffocation is not due to a serious life endangering cause.

2nd. On the doctor's part a lack of confidence, born of experience in efficacy of treatment and the patient, the basis of the patient's trouble being weak will. It is inevitable that they should lack the constancy of purpose to follow any plan of treatment, consequently they pass from doctor to doctor, each one inventing some novel course of treatment, which serves to submerge the morbid complex, until the novelty wears off.

The plan of treatment which I have employed with the best success has been "the plan" of isolation of the patient in charge of a competent nurse, who firmly enforces a rigid routine of conduct, withholding all sympathy, that element which they seem to morbidly crave, at the same time I invent some excuse to invade the rectum instrumentally, or lavage the stomach, this never fails to excite dread of each pretended treatment and calls forth protests, until in order to escape the ordeal they insist and assure that the rectal or stomach condition is much improved. Here the repeated assurance and reiteration becomes converted into a positive auto-suggestion. From these premises I mean to assert that active hysteria is incompatible with inflicted pain. There are individuals of the insane diathesis in whom any error of intellection, emotion or

volition will reduce to a true psychosis. The treatment of such cases is institutional and should not be attempted by the general practitioner.

In conclusion, in all cases of hysteria there are evidences of faulty metabolism. To restore all bodily function is essential.

A VERY PECULIAR CASE.*

By W. B. McCURE, Sherburne.

Some time ago I was called to see a woman 22 years old, five months pregnant, up to that time she had had no trouble, reported to me that she had so far felt fine, no trouble of any kind! I was called about 12 o'clock at night and when I reached her bedside she gave me a history of this kind. She had rested well after retiring about 9 o'clock, but woke up about 12 and found herself standing in the middle of the room, perfectly blind and suffering severe labor pains. She awoke her husband and he assisted her back to the bed and upon my arrival I suspected a premature labor but upon making an examination I found the cervix very rigid, no dilatation whatever, so I gave her an opiate which relieved the pains entirely and after keeping her in bed for three days she was up and about her household work as usual and told me she felt as well as she ever did, but just ten days from the first attack and at the same hour at night, she had the very same experience, by finding herself standing in the floor suffering violent labor pains as before, so being called again, found her in exactly the same condition as before and again suspecting a premature labor. But upon examination found no dilatation, so I gave her an opiate, had her remain in bed for three days, when she was up about her household duties as before. Just ten days later exactly at the same hour at night she found herself again in the floor under the very same conditions as above stated, but being busy when first called I was about two hours late in reaching her bedside and upon my arrival found her in hard labor and upon making a digital examination my finger came in contact with a foetus in the vagina which I had no trouble in delivering and after tying and severing the cord upon further examination found the cervix thoroughly dilated and the membranes very tense; so rupturing the membrane, the pains being very forceful, an excessive amount of amniotic fluid escaped and without any trouble delivered the second child and as soon as I could tie and sever the cord, the pains still being strong, I found to my surprise, the third foetus, and after delivering the third child the uterus being very

active, contracted down nicely and expelled two placentas, one placenta sufficing for one child and the other one sufficing for the other two children, the cords joining about four inches from the placenta. The uterus was firmly contracted, the patient not wasting any this being premature births, the children did not live but about an hour; two boys and one girl.

I stayed with the mother about two hours, some longer than I usually do after labor, and was getting ready to leave as the mother was doing nicely, the uterus firmly contracted and the mother said she was feeling fine; but in less than five minutes she said, "Doctor, I cannot see you, I am blind." Of course I at first suspected hemorrhage, but upon examination, I found the uterus firmly contracted, not wasting any at all and in less than five minutes she was dead.

Now the question is, what was the cause of this woman's death. As I should have stated earlier, this woman was the mother of two perfectly healthy children. I would like to hear from some of my brother doctors as to the cause of the symptoms and death of this woman.

MEDICAL ETHICS.*

By H. C. CLARK, Falmouth.

Recently there have appeared several articles in the medical press on the subject of medical ethics. All taking a happy view of the present conditions; throwing bouquets at the State and county organizations, and not a few at the good doctors, which is right and proper. Everybody knows of the individual and general improvement in our State, but not much was said about the short-comings within our ranks. I am one who believes good preaching is to tell us of our sins. There are just a few thoughts I wish to express along this line. It may not do you any good whatever to hear what I have to say, but it is giving me trouble and will do me good to have it out of my system.

I am forced to go straight at the question, not staying on one side the fence or the other. I must not attempt to excuse or cover up wrong doing, nor do I intend to try to carry water on both shoulders: nor yet to particularly magnify the trifling little acts thoughtlessly indulged in by my brothers. I shall endeavor to stay close to the text, hoping those of us who are hit will be benefitted and helped in future conduct, that we refrain from committing the acts that call forth condemnation by every honest and fair minded physician.

There is no fault to find with the Code of

*Read before the Fleming County Medical Society.

*Read before the Pendleton County Medical Society.

Ethics, or the Constitution of the United States. They were both framed by minds and hearts who were great in justice, truth and love for humanity. But has either the Constitution or the Code of Ethics brought us into reverential love and fear, which has made us true and loyal citizens, or good, clean, fair-minded physicians who love their country not for the protection obtained, or for the money to be made out of our profession, but grasping and holding the very spirit of the Constitution, or the Code of Ethics is the only thing which will qualify us, not for the dollars and cents we can make out of our calling, but what it could and should make of us as inspiring examples of upright men.

Benedict Arnold was a traitor; sold himself for money. You know how his life was ended. Esau sold his birthright for a mess of pottage, likewise any physician who puts a commercial value on his profession gets his reward, only in name is he entitled to mention in the roll call. He has never been where the "Shekina" of glory dwells; he is without the tent. When the test comes he is unable to say "Shibolet." He is holding his credentials and hanging on to the profession by unfair means; doing nothing for society work or the advancement of medical education and qualification; following in the wake of advancing hosts, coming only now and then in sight of the camp fires; satisfying himself on that which only a scavenger would have. Will reading a Code of Ethics reach such a person? Will you continue to let him drift along holding him in the society as long as he attends the meetings and pays his dues? Are you really doing him any good or doing your best for him and the society? By encouraging his indifference be careful, you may go to his level "first you pity, then endure, then embrace." You may be found defending him out of pity, then embracing the very things which are so destructive to him, and the good of the profession. Does he really at heart care a rap for the society, the Code or anything but a dollar? You know and so do I that the best evidence of friendship is not in the smooth, oily words but rather in the one who tells you plainly of your faults, gives good advice and helps you to do better. That is my aim and is meant for whoever needs this reproof, and I would think but little of you and less of myself if I only "spread salve" and endorsed wrong doing in order to make the hair lay smooth and be popular with somebody.

I am a friend to the profession and intend to help it to the extent of my ability, to hang on as long as I can speak, to the idea that money and practice is not to be the first and uppermost things to be considered. Be helpful in every way to each other, keeping in

mind the honor of the calling, and your own self respect. Put away your shams, masques, and hypocrisy. Quit your deceit, playing to the galleries, and prating about the "code of ethics," when you know but little of it, if one can judge from the way you act. Do not criticize a physician or his treatment of his patient unless in council with him, and then to him and him only. Be modest and gentlemanly when called in council. When council is called with you take no offense, be fair and honest, giving a true and full statement as to what the conditions and treatment have been. It is disgusting to see a physician when called in council swelling up with self-importance; looking the embodiment of wisdom, and giving sneering looks to the friends, making a display of his knowledge, being unduly officious; showing presumption and egotism on every hand, until he almost explodes with self-importance. His object is plain, his masque is seen through.

If called in council and find in your judgment there have been errors made, it is your duty to use your best tact in obtaining the consent of the physician in charge to change the treatment in such manner that the family may not see there has been a change made. That no possible impression may be left that would reflect on him or give yourself an opportunity to succeed him in that family. This is a very delicate phase of the consultation and will have to be handled with gloves. Many unhappy conditions have taken place among physicians at this time, but mostly unintentionally, by the consultant.

There are many little things I could call attention to which might be timely, if it were not for the fact that you are familiar with every point to be considered, you must be fair and a gentleman. Simply be governed by the Golden Rule and all will be well in consultation and in private practice, you will get a high or low ethical standing, the opinion of your confreres in great measure will be the opinion of the public.

Your chicanery and deception is not always hidden by your suavity and pretense. Playing upon the credulity of patience in many acts of stageing and four-flushing will bring practice and money, perhaps for a time, but ridicule in the end. You will find, if you play politics your dignity will suffer violence. To advertise is the game of the charlatan or quack doctor of the profession. See that you are worthy. You will receive the distinction; not you but the physicians and the public will place your name where it can be seen. In examinations be thorough: if you take any of the secretions for analysis do not pretend that you have examined it, when you have not. Do not have your patient expector-

ate in any kind of a bottle convenient, regardless of what it had formerly contained or its present condition; and report that you have had it analyzed when you did not do so. It is wrong to pretend, or work a fraud. Your sin will find you out.

In accepting contract practice you do so against the advice of the profession at large, and will surely injure your standing and bring you grief, sooner or later. The very ones who get you into it will impose on you, expect more attention each year, and finally employ another physician, and pay the regular fees for his services.

"THE COUNTY."

The fiscal court is composed of farmers, and two lawyers will contract with you to do the practice at a very low rate, but they do not reduce their fees. Is not your profession as honorable as theirs? Why should we work for the county for less than regular fees? Is it not true that we do more for charity than any other profession? Every physician does his share of practice for the worthy poor. Is it not also true that our expenses are as large as any other citizen. Did you ever hear of our getting our groceries or clothing at a discount because we are physicians?

CUT RATE PRACTICE.

Cutting prices to obtain business is disappointing and compromising; will lower the dignity of the man who indulges in this contemptible business. I have lived long enough to see these fellows get it in their own dish, when some new physician bids for the practice at a lower figure, and gets it. I have known a cut-rate doctor to go to an honorable physician to have a claim verified against a dead man's estate at double the price he got for his services while the man lived. Let me tell you, a cheap priced doctor is generally paid more than his services are worth. It encourages a disposition to neglect to do his whole duty, when only receiving half-pay.

I have been actuated in saying what I have, from the purest of motives; keeping in view the welfare of our profession, and hoping no one will be offended, and think nothing personal is meant.

"To thine own self be true, and it follows as the night follows the day, thou canst be false to no man," and only the Master can praise us, and only the Master can blame.

"You shall not work for money and you shall not work for fame, but for the joy of working. Each in his separate star drawing the thing as he sees it for God who sees all things as they are."

Finally my brothers, give a long and steady pull, and a pull altogether. Work constantly for the improvement of the State, and

county society. Individual success will be realized, and our ranks stand so close together that there will be no room for bickering or misunderstandings.

ATYPICAL PNEUMONIA.*

By O. W. BROWN, Lenoxburg.

There is no disease, perhaps, in the whole category of the practice of medicine that is of such vital importance to us as general practitioners as that of pneumonia. It is the most widespread and fatal of all diseases, and by far the most fatal of all acute diseases.

It attacks all ages, in all countries, and at certain seasons of the year it has been classed epidemic. It often strikes down the most robust at times when least expected, and strange as it may seem is most fatal in this class of patients.

The prevalence of this disease has not lessened any in the past few years, nor has its fatality been reduced, as has been the case with many other diseases. It has baffled the most scientific investigators from its earliest history to the present time, and the mortality is said to be even greater to-day than it was one hundred years ago.

We are all familiar with the ordinary form of lobar pneumonia and there is usually very little difficulty in making a diagnosis. But there is many different forms of pneumonia, and it attacks certain individuals in a manner that is most puzzling to even the painstaking diagnostician at times.

It is the atypical forms of this disease that demands our very careful attention, especially in old people and children.

While the pneumococcus is the germ which causes most cases of lobar pneumonia, as a rule, we must bear in mind that other infections are capable of producing in the lungs and in the individual, conditions which are not typical of a pneumonia. Such infections may be from the streptococcus, staphylococcus, and other infections microorganisms. These organisms no doubt in many instances render the soil more favorable to the production and multiplication of the pneumococcus. I believe practically all forms of atypical pneumonias are mixed infections, and also the frank lobar pneumonia that does not resolve has become a mixed infection.

There has always been a confusion among writers as to the real condition present, in young infants and children in these pneumonias. But I think it has been pretty definitely settled that capillary bronchitis and lobular pneumonia are one and the same thing. Most cases of pneumonia in children are of the atypical type, but it may be that all

*Read before the Pendleton County Medical Society.

the symptoms of an adult will be present. This condition may begin in a child with a convulsion instead of the chill so characteristic of the adult. Again the child fails to localize the pain and often refers to the abdomen as the seat of pain, or it may be complained of in any part of the body. Rusty sputum is very rare in children and there may not be cough for a few days.

Physical signs are slow in appearing in children and often we never detect rales at all. Often there is vomiting as there is in many acute conditions in children.

We usually have high fever, headache, delirium, great irritability, and a general appearance that denotes some serious condition. Some cases have muscular tremor, and perhaps contraction of the head and neck, resembling very closely that of meningitis. This contraction would naturally call our attention to the meninges, and it has been termed cerebral pneumonia. But we often have a meningitis complicating pneumonia in children, and this is perhaps the real condition present in these cases.

Any disease may be complicated by pneumonia, and no doubt is not recognized many times because of the obscurity of symptoms, or the atypical form.

Pneumonia of the aged is by far less typical than that of children as a rule. Here we often see but few symptoms (or none) to indicate pneumonia, and may make a bad blunder in the prognosis as well as the diagnosis if not very careful in our examinations and study of the case.

The onset of the attack is often obscure; the fever, pain, cough and expectoration are slight; the signs of consolidation not apparent. A distinct chill absent, but may have chilly sensations, low rise of temperature which may even reach 101. Pulse may not be quickened but little if any. But there will be great prostration if pneumonia be present.

It has been proven by post-mortem examinations that ninety-five per cent. of all deaths occurring in the aged from so-called senility have been pneumonia. We formerly heard doctors and laymen speak of patients dying of old age or senility, but we now know that our State Board of Health will not accept of this statement on a death certificate. There is no such disease as senility, and a large per cent. of these old persons die of this atypical form of pneumonia as has been proven in large hospitals by a post-mortem examination of the lungs.

I know the fatality of pneumonia to be very high in old persons and therefore we should give a guarded prognosis in all cases of illness in the aged, when there is any suspicion of pneumonia.

Another atypical form of this condition is the central pneumonias, and we may find this in all ages. The diseased portion of lung may be centrally located and mask most of the subjective signs, such as pain, cough, etc. It is only when the pleura is involved in pneumonia that there is very much pain, and this accounts for central pneumonia with absence of pain and also the difficulty of making a diagnosis from physical signs.

Another form there has been much contention about is the abortive pneumonia, or 48 to 72 hour pneumonia. This is to my mind a true pneumonia that is simply cut short from some cause and whether or not it is from medication or some other cause, I am unable to say. But in pneumonia as in all other infectious diseases, we have rudimentary and masked forms.

I am certain we have all seen these cases and perhaps attributed the knock-out to some of our new drugs we were using at the time. But how is it when called to another case manifesting every symptom of the ephemeral case, that the very same medication in the very same way will have no influence? I am forced to accept the theory that the individual anti-toxic process in the one case simply overwhelms the invading organisms, and in the other, that the organisms overwhelms the patient for a time at least, and perhaps for all time. These cases probably don't reach the stage of complete hepatization, or else hepatization having occurred, resolution immediately follows.

Pneumonia of the apex of the lung, not a very rare condition in adults, and quite common in children, for some unknown reason sometimes manifests a train of symptoms of very grave form from the very beginning. Surely we should find extreme nervousness, a more profound toxemia, marked cerebral symptoms, muscular twitchings and in fact all the symptoms resembling those of uremia in this condition more often than involvement of other portions of the lung? I am unable to say and would like to hear a word on this point from some one in the discussion.

Pneumonia of the alcoholic may be typical or atypical and in some cases a pneumonia may not be suspected owing to the preponderance of the symptoms of acute alcoholic intoxication. The patient may be suffering from pneumonia and delirium tremens at the same time. There may be but slight fever, no cough, no rusty sputum, little or no dyspnea and all the symptoms of a typical pneumonia absent. We know the alcoholic to be predisposed to this condition owing to his habits. Sometimes found in the ditch, fence corner, old out buildings, etc.

I wish here to report a case of migratory pneumonia that I attended last winter:

Young man, twenty-one years old, family history negative, except father has been a sufferer for the past thirty years from some sort of a nervous condition which seemingly has brought on all the symptoms of a confirmed neurasthenic. Personal history is that of a very anemic, overworked, slender, stoop-shouldered young man, but had never had any serious illness up to the present time. I found the boy, at my first visit, with a temperature of 105, pulse 160, terrific headache, considerable delirium, a cough with almost every breath, which caused agonizing pain about the region of the left nipple. Boy had been sick for five days and family giving him home remedies for grippe. I found complete consolidation of the lower left lobe which I think could explain to some extent, the embarrassed heart action. The heart seemed as though it were in a vise, and the apex beat almost unrecognizable. I gave the boy a hypodermic of morphine with atropine, gave a purgative (saline) applied an ice pack. Did not fix the side with adhesive plaster for fear of further hindering the heart's action, but should have used this had the other lung been the seat of the trouble.

Also gave strychnine regularly with enough codeine to prevent the cough and pain to some extent. The boy did very well for a time and there was improvement by lysis from the ninth to the fourteenth day, but his pulse never came below 120. Tongue had cleared, bowels acting well, pain and cough about ceased, was taking nourishment, sleeping very well and everything looked favorable for his recovery except the heart. I did not see him for three or four days when I was called and found all of the former symptoms with the lower right lobe involved. I resumed the previous treatment with added stimulation, watched the heart carefully, saw patient twice daily for five or six days when he seemed to improve so much that his father lifted him into a chair (without consulting me) to have his bed rearranged. He had not been in the chair more than a moment, so his father told me, till he died suddenly. This is a case where the profound toxemia had lasted so long and patient as well as his heart so exhausted, that his sitting in the erect posture simply brought on an acute dilatation of the heart. Had I a case similar to this one to treat to-day I would use the serum treatment freely, but yet would long for something more certain or specific.

While the treatment of many diseases has improved in the past few years by leaps and bounds and the terrors of a few years ago been conquered by modern scientific therapeutics, the treatment of this most fatal and

widespread disease is as yet in a labyrinth of the dark ages. The treatment from its earliest history down to the present day (to be sure) has changed immeasurable times, and all sorts of fads, specific in numberless therapeutic agencies has been offered to the medical profession as a means of combating and curing this disease, but all have come short and been found wanting. This may be, I believe, accounted for when we think of the many varieties of pneumonia and also that few cases manifest exactly the same symptoms. Ordinarily we make a diagnosis of lobar pneumonia or whatever form it may be, there is always a question as to whether it is caused by the pneumococcus, streptococcus or perhaps many other varieties of infecting microorganisms.

An infection of the lung or any portion of it seems to be rebellious to treatment in many cases and no doubt this accounts for the limited results by medication in tuberculosis. Owing to the histological construction of lung tissue it seems to be vulnerable, and unable to cast off infecting organisms as readily as some other organs of the body.

The treatment in all cases of this disease must necessarily be symptomatic, but a few points I have gathered from journals, text books, and my worthy colleagues of this medical society I feel free to proclaim. First and foremost, when called to see a case of pneumonia where patient is in great distress, get him quiet and comfortable if possible and keep him that way for a few days at least, then he will probably not need anything more as the severe headache and stabbing pain usually subside in a few days. Next most important step is plenty of fresh air constantly, night and day. Cleanliness of the body, mouth, nose and throat next. These three measures will apply to all types of pneumonia and many cases would require no more for the mild cases would get well without any care whatever.

For children and old persons I have employed a remedy that has undoubtedly been of much benefit in cases that did not do so well with other treatments. It is the carbonate of creasote suggested by Dr. Boggess in an article on pneumonia in the *State Journal*. It seems to meet the indications better than any remedy in my hands and may be given in all cases of pneumonia to advantage.

Strapping of the chest where there is much pain, is of advantage in keeping patient quiet. 1 z of guaiacol to the ounce of olive oil makes a good local application to rub into chest wall. Keep toxins eliminated as best we can by keeping the bowels, skin and kidneys acting well. Of course we understand that the whole treatment of this condition is to keep the patient's vitality up till the disease

has subsided, and we may do much by doing this. Strychnine and atrophine I consider the best heart and respiratory stimulants when indicated.

The cotton jacket, plaster of all kinds except mustard, and all kinds of wet poultices I consider a nuisance, and are uncomfortable to patient. But a mustard jacket to envelop the whole chest, left on till the skin is reddened thoroughly in the beginning of pneumonia seems to do some good especially in children. The ice pack relieves pain and quiets the patient, but in many families we are not permitted to use it.

Many of our cases of pneumonia we should visit two or three times daily. If a trained nurse is not in attendance for a case of moderate severity in the morning may be in a state of collapse in the afternoon.

Small doses of aconite or veratrum viride in the incipiency of pneumonia in sthenic cases, both in adults and children, undoubtedly relieves congestion to some extent, and seems to be particularly indicated in many cases in children. These remedies have the power of lessening acute inflammatory conditions of the bronchial mucous membrane and, if given in small doses often repeated there should not be occasion for alarm as a rule, especially in robust children, and these robust cases are the ones that these remedies are usually indicated in. Bleeding does good in these sthenic cases, but it is out of style and men are afraid of it, so I presume this fear prevents the doctor from insisting that it should be done.

Three "don't's" in the treatment of pneumonia, I remember, was instilled into me when in school. Don't over feed. Don't over-medicate. Don't over-examine. These three don't's I consider worthy of recognition for several reasons, but space will not permit of an explanation.

The vaccine or serum treatment we had hoped to be our sheet anchor for the relief of this condition, but from the experiences of other men, it has been a failure up to this time. Remember in the treatment of pneumonia, that we have an acute infectious disease to deal with, and to watch and control, if possible, every symptom that could possibly lessen the patient's chances for recovery.

Remember, that high pitched, tubular or bronchial breathing does not always indicate pneumonia, for it may be pleural effusion or tuberculosis.

Remember, that the extremes of life are especially prone to pneumonia and the symptoms in many cases atypical.

Remember the alimentary tract, and keep it clean.

Remember the patient's fight is only a few

days between life and death, and by your careful attention you may be able to tide him over a span that will enable him to enjoy many years of usefulness.

Remember, the patient is suffering from carbon-dioxide poisoning when dyspnea is marked, and give him plenty of fresh air if you have to fight the whole family.

Remember, that heart stimulants are not to be used until indicated, but in the aged stimulation is needed in most cases as a rule.

Remember, we will find the methods as advocated in text-books and literature very confusing if we attempt to carry them out in every case.

EPILEPTIC CONVULSIONS.*

By T. J. TOWNSEND, Owensboro.

The mysterious character of epileptic convulsions have confused the minds of the world's greatest philosophers, and through eventful ages the medical profession has failed to offer effective treatment for the more obstinate and severe forms of the disease.

Before the days of Hippocrates an epileptic convulsion was held in superstitious dread, it was regarded in the light of an evil spirit, and all honor is due the great father of medicine for divesting the disease of superstition, and properly classing it with nervous diseases. With the intelligent physician the evil spirits have vanished, and we are advised that numerous causes have been assigned, and are suspected to exist in the total make up of many cases.

Here I shall recall two patients that came under my own personal observation, both of which were promptly cured by removal of carious teeth.

The frequent and prolonged habit of cigarette smoking may lead to epileptiform convulsions which may be explained by the presence of wood alcohol that is produced from the rapid combustion of burning paper made from wood pulp.

I shall recall in my early practice an obstinate case of epileptic convulsions which gave a history of five years standing. The unfortunate man was a portly well-to-do farmer who weighed 240 pounds avoirdupois, he had acquired the habit of using opium, and requested me to give him a large dose of "hypodermic medicine," his bowels and abdomen appeared unduly distended, due to excessive eating and overloaded conditions.

This patient was treated to active purgatives for three consecutive days, with the best intention of producing copious movements of yellow bile. He was put on a low diet and

*Read before the Daviess County Medical Society.

only two meals a day, he made a smooth uneventful recovery, and survived many years in pursuit of his useful avocation.

Here, in this single case we have opened a wide domain for special inquiry, and serious contemplation, and we are reminded of a common evil that never fails to afflict the economy of man.

Here, recuperative energy is kindly displayed according to the Ordination of Providence, as manifested throughout the animal creation. The brute sickens—it refuses food from a friendly hand—it starves and makes quick recovery at the instance of an all-wise power—“*cura famis.*”

Here we are reminded of infinite wisdom—and that instinct possesses a power of practical sense—to starve, means elimination and recovery—to feed, means renewal of the intoxication; which, without intervention of some kind might lead to death. Catharsis liberate nature—restores inhibition, and united energy. Man purges, and the brute starves, either may secure good results in the line of cure.

The epileptic patient, after having been purged, should be taught negative means, that may prevent recurrent attacks of epilepsy, and that no agent can equal in value or efficiency a long conducted and rigorously low diet. With anaemic and half starved patients a liberal quantity of nonrishing diet is in order—while with the more robust class, “*cura famis* is the watchword; but in either case, the patient must be warned that a two meals a day system is the best for epileptics, and should be persisted in till victory is scored over disease.

The best and most learned men engaged in the healing art do sometimes disregard instinctive knowledge in the brute. With mental blindness we all may, at times, look with indifference at the law of protection. We are often tempted to traverse narrow paths that may lead only to the grave.

Instinctive and intuitive sense is greater than reason. We argue to suit selfish ideals, or to attain some special object or desire.

Here, we shall admit inadvertence and discredit the healing art. With his gift of greater intelligence, man is the only creature that wilfully and knowingly violates this exacting law of nature. Man eats and the brute starves.

Epilepsy is classed with the obstinate forms of disease. This is due to a failure to know in each particular case the assignable cause. Effort conducted with patience is needed to ferret out the cause of each individual case of epilepsy, and we are expected to succeed best when we know how to apply a surgical or a medical remedy.

In olden times, when Orbaeus had won distinction by enring fits—he has most assuredly accomplished a feat greater than that of any predecessor who had, hitherto professed a knowledge of epileptic and other forms of convulsions. When he had discovered that reflexes involved the great sympathetic nervous system in diseases of children, and that teething, and a high blood pressure from elevated temperature would cause a fit, he was reminded by analogy to adopt rational methods for treating convulsions. For teething children, it is proper to lance a gum at the focus of pain, and to actively purge the little patient; this will relieve the fits—we should not forget to apply a common sense rule to a more serious disease.

Liken unto a Phoenix that has been cremated to rise again, purified from its ashes—the spirit of Orbaeus shall linger through countless ages to bless afflicted humanity, and his generous spirit still hovers as an archangel to lead us from the vales of eluded mystery.

I believe in making diet a principle in the treatment of obscure chronic disease. We are facing a problem, and it is the greatest one of the twentieth century. Evil spirits and Pagan philosophers are vanished; *Petit mal* and *grand mal* with *white plague* and the *cancer*, are on trial with the American physician, and when a true verdict is rendered the dogma of theoretical science will surrender its tenets to the mildews that rust and corrode. Many ideas and ideals born in the eventful past do rise in triumph from the dust laden shelves of ancient lore, to intercept the steady march of the tripple foe.

How to cure diathesis, and to keep it cured is a question of difficult solution. It is a settled question in my own mind that intractable obstinate disease can only be conquered by changing the diathesis, and let me say, just here, there is only one way that it may be accomplished.

The farmer who gathers in, at early frost time, a lot of hungry, diseased pigs to make his meat for home consumption, can change the diathesis, and restore the health of his entire herd of animals by feeding them one kind of food. In the short time of three months, the corn fed animals are slaughtered to furnish the sweetest, most palatable meat known to the human race.

The hog is a scavenger brute, and the very meanest of its race; its voracious appetite is unexcelled—it will feed on putrid flesh, worms, bugs and reptiles—if killed before its flesh is purified by use of cereals, its flesh is nauseating and dangerous to human life.

The time is approaching when leprosy, cancer and tuberculosis will be cured by a

generous two handed diet of bread and milk. Plain food tends to strengthen the weakened chemistry of life. Pardon this digression—I shall return to epilepsy, and cite a few more causes. A compressed brain from an osteomegental irritation, that may involve the sexual organs in a state of disease; too frequent and excessive eating of unwholesome food—mal-assimilation, nerve pressure, disease of the eye, ear, mastoid cells, tight or ill fitted wearing apparel, intestinal worms, tea, coffee, alcoholics, tobacco, constipation, corns, excess, and imprudence of any kind that may tend to produce a feeling of discomfort or pain with a neurotic person.

PREVENTION OF TUBERCULOSIS.*

By S. M. HOPKINS, Demossville.

Next to religion, this is one of the greatest questions before the people to-day. The prevention of tuberculosis is a problem, in the solution of which, all professions, religions and people of all walks of life can work together.

The societies organized for this purpose are numerous. The only way to solve this question is a thorough education of the people in regard to the disease in all of its phases. The physicians should and are taking the lead in this educational idea. To produce tuberculosis two things are necessary, the seed and the soil. Koch, in 1885, discovered the seed, since that time the disease has been studied in a more scientific way. The germ usually, although by no means always, gets into the system through the lungs and upper air passages. If it finds lodgment in structures of feeble resisting powers it goes to work. This brings us to the question of heredity. We know that the disease *per se* is rarely inherited, but we also know that a low physical organization with poor resisting powers is hereditary. This is the so-called "tuberculous or non-resistant type," and offers a poor fight when invaded by any infectious disease. We must remember that the infection also invades the strong and robust, when from any cause their resisting power is below normal.

Some one has made a very apt comparison between the parable of the sower and the individual predisposition. The good ground in the parable is compared to the person whose powers of resistance are below the normal, who readily takes on the disease and succumbs to it.

The science of eugenics, which means the science of being "well born" advocates a reform in human breeding. They would have the fit bred with the fit, and thus eliminate the inherited tendency to disease. The science of

eugenics is not different from science of the up-to-date farmer, in the selection of the seed with which he sows his fields, and in the mating of his stock. He will exercise great care when he breeds for fine horses and cattle, when likely this same farmer would give his healthy daughter in marriage to a syphilitic or tuberculous husband without investigating his pedigree. Some of the eugenic laws that have been passed may be a little too drastic, but our laws should prohibit the marriage of persons having pulmonary tuberculosis.

The housing problem is very important. It is hard to teach people the value of well-ventilated rooms in the prevention of infection of one member of a family from another.

Since the successful use of vaccines as prevention in typhoid fever the efforts have been great to find a similar preventive vaccine for tuberculosis, but so far their efforts have failed.

Tuberculosis should be a reportable disease in the cities. Every county should have a salaried health officer, then this should be reported in the county districts. A health officer should visit every case of pulmonary tuberculosis, and give explicit instructions in a prophylactic way. Much of the advice of the family physician is not heeded, spitting upon the streets and in public places should be prohibited.

Whittaker said "a man walking the streets with tuberculosis, and spitting where he willed, was as dangerous as a man walking the streets with a many-barrelled pistol, and firing at random."

When called to a case of pulmonary tuberculosis our instructions should be plain and cover all points of the treatment well. We should tell the patient and family that the hope of recovery of the patient, and as prevention of infection of other members of the family depends upon plenty of fresh air. Have the patient spit upon paper or cloths and burn them. Every patient should have special drinking cup and dishes, and these should not be washed with the family dishes. A tuberculous mother should not be allowed to nurse her infant. Children should not be allowed to stay in the same room with patient with active tuberculosis. No one should sleep in same bed and not in same room, except when necessary to attend to needs of patient. Delicate children should be guarded against the contagion of whooping cough and measles, hypertrophied tonsils and adenoids should be removed as they form a nidus for growth of tubercle bacilli. All infected houses or rooms should be thoroughly disinfected.

*Read before the Pendleton County Medical Society.

MENSTRUATION AND MENOPAUSE; THEIR INFLUENCE ON THE VICIOUS CIRCLE.*

By WILLIAM J. THOMASSON, Newport.

Puberty and the climacteric are the times in a woman's life that either health and happiness or misery and distress become a part of her being, and remains such the rest of her life.

The reflex nervous system is always at its highest point of irritability during menstruation. Heat flashes, nervousness and general malaise are some of the most prominent indications that the menstrual flow will shortly appear.

Headache, a full feeling about the head, difficulty in breathing, nose bleed, dark circles under the eyes, and a general bodily discomfort, warn the parent that the girl is about to enter womanhood.

Menopause is the time in every woman's life that is not only dreaded by the woman, but by the members of her family as well. The individual with a pleasant disposition may become a demon, or the motherly woman we once knew, may seek forbidden pleasures or become addicted to strong drink or to the use of drugs.

The family ties are broken, vows are forgotten, old friends forsaken, and the once contented wife and mother becomes a seeker of pleasure in the places once shunned by she and her former associates.

Should she escape a change of disposition and character, she is almost sure to become morbid, a hypochondriac, or a chronic invalid. This condition may last for a few months or years, or it may continue till death puts an end to this wretched condition.

The menopause occurring at the proper time in life, or at about forty-five or seven years of age, is usually more kind to the gentler sex, than it is to those women who have been so unfortunate as to be ushered into the climacteric early in life by the removal of their ovaries during the years when they should be bearing children. The mental impression, the thought of being unsexed, the knowledge that they are unable to reproduce their kind, all influence the well-being of the individual.

It is especially this class of cases that prompt this paper, and our limited experience has taught us that many of the distressing symptoms that these patients have, might have been relieved by the proper treatment of the condition within the nose. May I venture to make the statement that some of these cases

that have been unsexed without any benefit or without the relief of the symptoms that prompted the operation, might have been benefited by the proper treatment of the nasal condition, and the woman spared the humility of being unsexed. Who knows, she might have been a happy mother instead of being a chronic, nervous wreck.

Do not understand us that the ovaries should never be removed, for we believe if they are diseased, the sooner they are removed the better. On the other hand, if there is a possibility that the organs are only in sympathy with some other part of the body, for instance, the cause might be located in the nose, the ovaries should not be sacrificed till all other treatment has been tried. For just as sure as the ovaries are removed, it matters not for what cause, you can depend upon the nasal mucus membrane, as well as other portions of the nasal economy undergoing pathological changes.

The nose is a long way from the generative organs. Yet one has only to visit his country cousins'; spend a few days on the farm, observe the herds, visit the studs. If you are unable to journey to the country, listen to the tom cats on the back fence. We wonder how they knew? Is it instinct, or is it stink that calls the merry chorus together? The buck traces the doe by the sense of smell. The female dog in rut, even if quarantined, will cause the gathering of an army of male dogs in a very short time.

Man does not use the sense of smell to trace the opposite sex, but nevertheless most of us have fond recollections of special perfumes that some of our friends in the past used, and the odor, even after many years, will bring back thoughts of early and vigorous manhood.

Dabney¹ says, "The use of perfumes from time immemorial, has been a conscious or an unconscious attempt to stimulate lecherous thoughts. Though in times of moral decay, women have unfortunately not been the only offenders. Cicero inveighs against the 'Spreading of unguents' and other odoriferous and erotic preparations upon the person, as the practice was much in vogue in the days of the Roman Empire and the Greek Republic, and not unknown to-day. Hence, we hear of 'intoxicating' perfumes well named, though few who use the phrase know the solid biological grounds upon which the expression rests."

The nose will tell when the young man has worshiped well but not wisely at the shrine of Venus. The nasal mucus membrane will tell the trained physician whether the woman is now, or going to menstruate in the next day or two.

The young man who enters your office with the stuffy nose, the nasal twang, and possibly

*Delivered before the Campbell-Kenton County Medical Society.

an acute impairment of vision does not have to tell you that he has partaken of the forbidden fruit. Relieve the acute congestion of the erectile tissue within the nose, caution him to abstain from all sexual excitement, give him a sedative, if he cannot control his animal passion, and the obstruction will promptly disappear.

Haverlock Ellis², in his six volumes on the "Psychology of Sex," treats especially of odors and their influence upon suggestion, emotion, religion and morals; action on the heart, vasomotor system and muscular activity. In one instance he speaks of the custom among certain Philippine tribes of lovers changing their garments to have the odor of the loved ones about them. Not infrequently the sexual inclination of one individual towards another is greatly influenced by olfaction.

Some odors excite and others repel. The method of salutation by rubbing the noses together, or touching the hand to some part of the face, common among many tribes of Africa, India and the South Sea Islands, is classed by Ellis as "Sexual attraction by personal odor."

Smelling by contact (as noted earlier in this paper) is possibly the earliest known salutation. This is exemplified also in the lower animals.

Seifert³ in his paper on the clinical study of the relation between the nose and the sexual organs, says—

"After a critical review of the literature and a number of experiments of his own, he arrives at the following conclusions:

First. Many symptoms point to a direct nerve connection between the nose and the sexual organs. The course of the respective nerve tract is yet unknown. There exists certain striking anatomic and physiological analogies between the several parts of the nose and the sexual organs.

Second. The objective noticeable nasal symptoms accompanying sexual conditions and functions seem to be influenced to a more or less pronounced degree by general circulatory and mechanical conditions.

Third. Numerous pathological conditions (including many of the menstrual anomalies and also quite often the *hyperemesis gravidarum*) may be explained by the assumption of a real nasal reflex neurosis or a previously existing nasal intumescence with the local and general sequela.

Fourth. The active nasal influence upon the sexual organs may be chiefly explained by the suggestive effect of the therapy.

As the euphoria of cocaine that varies in different individuals, and the relief of the nasal conditions causing nasal reflex neurosis,

this apparent nasal influence is furthermore due to the establishment of free nasal breathing and the alleviation of nasal engorgement."

Brettauert⁴ advocates nasal treatment for cases of dysmenorrhœa, not apparently due to any gynecological condition. He asserts that nausea, vomiting and pains in the iliac region often disappear after the application of a twenty per cent. solution of cocaine to definite areas of the nasal mucosa.

In a paper published by Dr. Wilhelm Fliess⁵ in 1897 attention has been called to the fact that certain areas in the nose, the tuberculum of the septum and the anterior half of the lower turbinate always become swollen, hyperemic and bleed easily upon the slightest touch during the menstrual period. All of these symptoms promptly disappear after the cessation of the period.

Drattauer details the histories of five cases in which the results in cauterization were very satisfactory. Other authors have also reported cases in which permanent relief was obtained by means of trichloroacetic acid, galvano-cautery, or bi-polar electrolysis, or by other rhinological treatment removing spurs, enlarged turbinates, etc.

Experimental research on influencing the sexual system by operation on the nose—Koblauch and H. Roeder.

"Though the animal operated on so as to destroy the so-called genital points in the nose, grew as well as the controls, they seemed sexually indifferent, and their genital organs were found practically rudimentary. Very likely there is some close connection between these points and the hypophysis."

If these researches are true, it emphasizes the importance of conservative surgery within the nose. Especially is this true in reference to the nasal mucous membrane during early adult life and during the child bearing period.

Let us examine the nasal cavities and learn why the sexual habits of the individual affect these structures.

The nasal cavities are two in number, these spaces are divided by the nasal septum, and each of these cavities contain three turbinate bones, and the lower border of the inferior turbinal and the lower and posterior portion of the middle turbinal is made up of erectile tissue, which is closely analogous to that of the glans penis. The tuberculum septi is also made up of the same tissue, and as this erectile tissue is located in the most vital portion of the upper air tract, it is readily understood why any abnormality within this region known as the vicious circle will affect the general health of the individual.

The petrosal nerve, and the sphenopalatine

ganglion is the connecting link between the nose and the sympathetic system.

When we remember the function of this system and the vasomotor control over the smaller blood vessels, and the arterioles, when we consider how little it takes to cause the act of blushing, we will readily understand how under similar conditions the blood can be sent to the erectile tissue within the nose, for in this region the resistance is much less than of the face and forehead.

In other words, the blood supply to the erectile tissue within the nose is influenced by vasomotor disturbances, and as the blood supply is abundant in the nose, this particular tissue suffers not only from vasomotor irritation, but also suffers in proportion to the excesses put on the other erectile tissue of the body.

The swell bodies (or erectile tissue) in the nose is supposed to take care of all the air that we breathe. This air must be filtrated, warmed and moistened by the erectile tissue. These swell bodies are called on every twenty-eight days to sympathize with the generative tract. Or, in other words, this erectile tissue becomes engorged twelve times a year during the child-bearing period.

This same tissue also undergoes engorgement not only at the menstrual time, but the changes of atmosphere affect the blood supply to this tissue, and all sexual excitement causes an increase blood supply to the swell bodies. Some investigators think that uterine or ovarian irritation will also cause the swell bodies to become engorged.

Is it any wonder that we find hyperplasia not only of mucous membrane in the nose, but of the bone and periosteum as well?

With the hyperplasia of the nasal contents, or in other words, the obstruction in the nose, due to the thickening of the bony turbinals and their coverings, preventing normal drainage of the sinuses, allowing the air to enter the lungs unprepared and in many of these cases the turbinal is in contact with the septum, causing pressure and a long train of nervous symptoms. This condition may go on for months or years, be called catarrh, nervous headache, or neuralgia. Many of these cases become nervous wrecks. Complain of painful menstruation, and go from bad to worse, till the ovaries are removed and then, instead of the looked for improvement, all of the previous symptoms are exaggerated, the woman is a misery to herself and to her family, and the sanitarium usually shields her till death kindly puts an end to her miserable existence.

What effect does the removal of the ovaries have on the turbinal bones? Does the removal of one ovary cause any nasal symptoms? Most emphatically yes! Our experience has

shown that all cases that have come under our observation, where the ovaries have been removed, have had nasal complications, such as severe headaches, stuffiness in the region of the vicious circle or sinns involvement, due to the obstruction interfering with the ventilation and drainage of the accessory cavities.

We have several cases under observation where one ovary has been removed, and the middle turbinal corresponding to the same of that, on which the ovary was removed, underwent hyperplastic changes

One patient in my series, a young married woman age 19, had no trouble at all till after marriage. Since that date has always had trouble with her nose, and complains of difficulty in breathing after coition. The symptoms are always worse following sexual intercourse. This condition has now lasted for two years.

What change, if any, takes place in the nose at the time or after the menopause? Owing to the long years that the erectile tissue in the nose of the woman of middle life has been engorged, the middle turbinal usually on both sides becomes very much enlarged and practically blocks the middle meatus. Later the mucus membrane loses its normal color, its luster is dimmed and the large thickened turbinal has a glazed white appearance.

If drainage is not interfered with, headaches may not be complained of, but it is in these cases that we usually have the severe headaches, the hot flashes and the chain of nervous symptoms due not to the menopause directly, but to the condition within the nose.

Many of the symptoms and much of the suffering that these women undergo at this time of life, and what was formerly looked upon as the normal conditions of the women at menopause, can be relieved by the proper treatment of the condition within the nose.

I want to report a case referred to me by Dr. Jenkins a few days ago.

Mrs. S., age 27, a woman poorly nourished, anaemic and very much emaciated. Menstruated first at the age of 19, regular till twenty, when she was married. Never menstruated after marriage till a few weeks ago. Nine months after marriage aborted at the fourth month. Two years after marriage gave birth to a living child, and four since, all living, the youngest six months of age. This woman had not menstruated since marriage till a few weeks ago. Then menstruation appeared the second day after a nasal operation. This woman complained of pain over the ethmoid, frontal and maxillary sinnses. On transillumination a positive shadow was cast in the region of the maxillary sinus. This cavity was at once washed out and twelve days later the middle turbinate and the anterior ethmoid removed. This operation was followed

twenty-four hours later by a brisk uterine hemorrhage, necessitating the patient to remain in bed. This hemorrhage occurring as it did, so soon after the nasal operation, was undoubtedly due to the influence that the genital zones in the nose have over the uterus and its appendages. Examination of this woman's uterus, since the hemorrhage, shows no pathological cause for the same.

Case No. 2. Mrs. L., age thirty-five, wife of a farmer referred to me by a neurologist for refraction and an ophthalmoscopic examination. Eye symptoms negative, vision 6-6.

Nasal examination showed both middle turbinates enlarged, and in contact with the septum. Their removal advised, operation refused. In this case we were able to shrink the nasal tissue temporarily, and relieve some of the nervous symptoms. This woman two years ago had both ovaries removed, and all of her symptoms have been worse since the operation.

Case No. 3. Mrs. —, age 44, had the left ovary removed April, 1911. The following fall began to complain of stuffiness on the left side of the nose. This condition was easily relieved by the use of adrenalin and the oily sprays for a short time. During the winter the obstruction did not yield so readily and some odor was noticed coming from the left nostril. This condition has continued till the thickened tissue is in contact with the septum and no longer yields to the adrenalin or cocaine.

The ozena is gradually increasing and the condition is nearing the point when the patient will have to yield to an operation for the relief of the odor within the nose.

These three cases are but a few that have come under my observation, but enough to emphasize the great importance the nose plays in its relation to the generative organs in the female.

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Placenta Previa. Treatment. Pituitrin used with good results in 16 cases. If only a small portion of placenta presents, and especially if vertex presents and cervix is sufficiently dilated membranes should be ruptured and pituitrin given. In other cases employ combined version with pituitrin, and await spontaneous delivery, merely extracting arms and head. Where dilatation insufficient for combined version, insert small dilating bag or vaginal tampon, and later do version and give pituitrin.—Trapl.

EXAMINATIONS FOR LIFE INSURANCE.*

By F. M. STITES, Hopkinsville.

Examinations for life insurance require the exercise of delicacy, skill and sound judgment on the part of the medical examiner. Serious departure from the normal standard of health that is not even known to the applicant himself is so common that the medical examination is of vital importance to the insurance company and calls for all the skill and knowledge that present day diagnostic methods have developed.

Every applicant that is brought to the examiner must be questioned and investigated as thoroughly as possible and there is no place for a prejudice or a preconceived opinion in any case. Sometimes what was thought to be an impassable obstacle to securing insurance will prove a very trivial thing, and not infrequently an apparently sound individual will be found entirely unfit for life insurance.

There is no part of a modern examination blank that is not important, though a faithful examiner will never confine himself to the printed questions on the blank, but will follow any clue of importance that may develop during the examination. There are some parts of the examination, however, that require special care and attention.

Except in the large centers there is not much danger of an examiner being deceived in the identity of an applicant, though he should always bear in mind the possibility of deception unless he personally knows the applicant.

The family history is of importance in many ways, and it may require both skill and patience on the part of an examiner to approximate the truth of this history. The most trying revelations must be recorded at times, and nothing should be withheld from the medical department, however embarrassing it may be to the applicant. Suicide and death at the hands of a mob, tuberculosis and insanity, alcoholism and syphilis are exceedingly distasteful to record, but the family history would be of little use without the truth in such cases. Few applicants can give the ages of their relatives off hand and an examiner must patiently help by recalling the years of death, birth, etc. When a definite answer cannot be given the reason for the failure should be stated if possible. The brothers and sisters one-half related by either parent should be recorded even though not called for in the blank. The very prevalent habit of recording the health of all living relatives as good, is due often to carelessness, and may conceal a

*Read before the Christian County Medical Society.

case of tuberculosis or insanity that the company should be informed about. A more careful inquiry into the health of living relatives and the previous health of dead ones would be of great value to the insurance companies.

The applicant is apt to be very forgetful of his own personal history, especially as to illnesses. In those examinations where the long list of diseases is left off, the examiner should use care in securing a true record of all sicknesses, injuries or operations. A carefully read list of questions about diseases will undoubtedly serve as a reminder to the applicant and it is more difficult for one who is willing to deceive, to deny a direct question about a disease than to evade a general inquiry.

Careless diagnosis causes the examiner infinite trouble and annoyance. Biliousness, malaria, la grippe, bronchitis and tumor cover a multitude of sicknesses, and are practically meaningless until carefully investigated. Also the practice among certain doctors of exaggerating the seriousness of trivial indispositions may interfere with the decision in some cases. It is not rare for a rejection to be based on the diagnosis of appendicitis, gallstones or renal calculi when there was no real foundation for such a diagnosis. The statement that the applicant has had pleurisy usually means to the medical department as well as to the experienced examiner, that the applicant has had an infection of tuberculosis. This information is very important, but it is very unjust to the applicant to pronounce a slight pain in the side a pleurisy unless there is a real involvement of the pleura. Equally troublesome and unfair is the attitude of some men when referred to for information regarding the sickness reported by the applicant, in affirming as trivial and of no consequence serious conditions that should be known to the medical department.

The only remedy for these things is greater accuracy in diagnosis, and it is encouraging to note the increasing care in arriving at a positive diagnosis that is becoming prevalent. An incorrect diagnosis may not only cause a patient unnecessary anxiety as to his health but may cost him and his estate many thousands of dollars. The careful examination of the chest and abdomen cannot be too strongly emphasized. Inspection has become more important than formerly because of the frequency of operations, and the scars of operations should be looked for in all cases. If found they must be accounted for and examined to determine if they are well healed, and in abdominal operations to detect the existence or possibility of hernia. A scar on the chest will recall a forgotten empyema and the

shape of the chest will often show important facts to the examiner.

In every case the applicant should be weighed by the examiner on reliable scales, preferably physicians' scales in his own office, and the measurements of the chest and abdomen taken carefully with a steel tape. A fixed standard of height in the office of the examiner separate from the scales is to be preferred, and these things all show the importance of making the examination in the examiner's office whenever possible. Add to this the importance of quiet and freedom from interruption and the facility for securing authentic urine and it is perfectly apparent that the examiner's private office is the ideal place for the examination. The urine to be examined should be passed in the presence of the examiner in every case, except in the examination of women, and in these cases every care must be taken to avoid the possibility of substitution. There is no excuse for the careless examination of the urine. The tests are so simple, well known and easily made and so positive that the slightest abnormality can be detected.

Evasion as to the use of intoxicants or drugs is very common, and it is difficult to secure the exact truth as to the amount used and the admission of the use to the point of intoxication. Nothing short of a definite statement of the truth in this regard should satisfy the examiner and if he is in doubt he should satisfy himself by private inquiry.

The use of a copy or photograph of a former examination is improper except after the completion of the examination, when it may be referred to, to make sure that nothing of importance has been omitted. The truth is much more likely to be recorded if each examination is made independently.

In all cases where there is a doubt, the examiner must use every modern means to secure a true report of the applicant's condition. The pupils tell often of a beginning locomotor ataxia. The deep reflexes should be tested in case there is a suspicion of disease of the nervous system. In every case whether required by the medical department or not the temperature should be taken and the systolic blood pressure recorded.

The examiner should under all circumstances endeavor to maintain friendly relations with the agent. The agent will rarely try to interfere with or influence a competent examiner, and the examiner should try at all times to be in readiness to examine an applicant at the time appointed, and always as early as possible after the application has been secured by the agent. Often a few hours delay will cause the loss of the insur-

ance to the Company, and the commission by the agent.

The examiner is employed by the company and well paid for his services, and it is his duty not only to protect the company from unsafe risks, but equally to be careful that the company is not prevented from insuring the lives of healthy persons because of some carelessness or neglect on the part of the examiner.

The most difficult and delicate work of the examiner is in dealing with those applicants who have been previously rejected. They nearly always believe it was carelessness or prejudice on the part of the examiner that caused the rejection, and if the cause of rejection is known to the applicant he will usually try to conceal or minimize the condition that brought about the unfavorable report. After making the rounds of several companies these rejected risks may become quite expert in handling their cases, and if the agent is willing to assist, the examiner may have considerable trouble in securing the true facts. Of course the companies are largely protected by the former reports on such risks that are accessible to all regular insurance companies, but the examiner cannot take for granted that the company for which he examines has any other source of information than himself, and if he fails to make a full and accurate report on such cases, his own standing with the company must suffer. If only the applicant and agent knew it, a full and frank statement of the truth in every case will most often secure a favorable consideration by the medical department, and if by their other means of securing information the medical department finds that the applicant has made false statements or the examiner has failed to record an important or obvious condition, the whole case of the applicant is injured and his chance of receiving a policy much diminished, and the examiner's standing with the company lowered correspondingly.

Tinnitus Aurium. Treatment. To relieve stuffiness of Eustachian tube—the most frequent cause of tinnitus—inject in it with catheter a 2 to 5 per cent. solution of dionin, using sufficient force to cause it to enter tympanic cavity.—Randall.

Tapeworm. Treatment. Thymol in cachets of 0.25 Gm. (4 grains) to be given in the morning on an empty stomach for eight days. Worms usually expelled on third or fourth day. Twenty-three cases treated with success. All alcohol to be stopped during treatment.—Artault.

TREATMENT OF TUBERCULOSIS.*

By L. T. ECKLER, Falmouth.

After having fully determined that a patient has tuberculosis, the physician has confronting him a very interesting and instructive problem. A problem to be studied by him in its various phases. A problem to which science is at this time lending her most earnest endeavor; namely, that of a specific cure.

Truly and deservedly has tuberculosis been designated the "great white plague," maiming and devouring, as we all know, more human beings than any other disease. From time immemorial, statistics have shown that the death rate from tuberculosis is greater than that of any other disease. Oftentimes in crowded districts its percentage of deaths is equal to all others combined. It is, therefore evident that the treatment of such a malady is of great importance and interest.

Several times have we been delighted to notice reports from scientists purporting a specific cure, but, with each instance our delight has been turned to deep regret to learn that again a failure had been made.

Not only physicians, but the laity have become interested and have become educated that this is the greatest menace to the health and happiness of the human race. Therefore, the laity are demanding that we as physicians make a more earnest endeavor to prevent and cure the disease.

The first and probably the greatest problem confronting us is the prevention of tuberculosis or its spread. The medical fraternity has accomplished much needed legislation along this line in recent years. Laws regulating sanitation, and establishing sanatoria for the treatment of tubercular patients have been enacted. However, we are just now at the beginning of what can be accomplished by us as physicians. The time is now ripe, that we as an organized body, can accomplish much more needed legislation along this line.

The treatment of tuberculosis should be considered, first, as to prevention of the disease and its spread; second, the treatment of the disease in its active process; third, the treatment of special symptoms, and, fourth, the use of special remedies.

Chief among the prophylactic measures in preventing the spread of tuberculosis, is the collection and destruction of the sputum from the tubercular patient. Suitable cuspidors, or spit cups, should be used by every patient affected with the disease. The cup should contain an antiseptic solution, and it should be explained to the patient that he should invariably use the cup for his expectoration and

*Read before the Pendleton County Medical Society.

not dispose of it upon the floor or ground. The contents of the cups should be burned in order to make doubly sure the destruction of the bacilli. The stool and urine of such patients should be destroyed. The body should be bathed in an antiseptic solution at brief intervals, since through the sweat, which is abundant in most of these cases, some bacilli are deposited upon the surface of the body.

All food gathered from near the residence of a tubercular patient should be thoroughly disinfected. Many cases are traceable to milk from unclean or unsanitary milk stations. Dairies should be repeatedly inspected by competent veterinarians. All tubercular animals killed and their carcasses destroyed.

A patient suffering from tuberculosis is to be isolated. The room to be rid of any hangings or drapery that might furnish a lurking place for the bacilli. The floor should not be carpeted, and all upholstered furniture should be removed. The patient's bed and apartments become a source of infection. Therefore the clothing and dressings of the bed are to be repeatedly aired.

It is of paramount importance to instruct and educate, not only the patient, but those with whom he is situated, that tuberculosis is a disease about which there can not be too much precaution, and that the remainder of the family or friends must not use any thing that has been used about the patient or his bed, without the same being first thoroughly disinfected and sterilized.

There should be more written or published in our daily and weekly papers concerning the ravages of tuberculosis upon the human life and the manner of stopping its spread and preventing it.

Unfortunately, among the poor there is not sufficient means or sufficient room to be had to give them proper care and attention. Sanatoria, established and maintained for the treatment of such cases are very commendable.

There has been, from time immemorial, an idea that there existed a predisposition to tuberculosis in some individuals. If such be the case, then it is the duty of physicians to, if possible, remove such predisposition. Scrofulous tendencies should be overcome through hygienic measures, together with good nutritious food, and tonics.

Tuberculosis often follows other acute infectious diseases coming on during convalescence. It is the practice of many physicians to dismiss a patient suffering from an acute disease as soon as the acute symptoms have subsided, leaving convalescence to nature. It is true that nature is the greatest of all reconstructives, but many times the bacilli finds suitable culture media in the already weak-

ened system of the convalescent and soon an active tuberculosis develops.

A change of climate is often very beneficial to those predisposed to this disease as is also the regulation of the daily habits. Bathing the neck and chest in cold water followed with a brisk rub with a rough towel is of importance and has been practiced by the writer with good results.

Obstructions in the nose, enlarged tonsils and adenoids should be promptly removed, and surgical treatment given to glandular or osseous foci.

To discuss the treatment of all the forms of tuberculosis in a single paper would render it too long and wearisome. Therefore only pulmonary tuberculosis will here be considered, leaving the treatment of acute miliary and bone and joint tuberculosis to the discussion, which will, it is hoped, also consider tuberculosis of the special organs, kidney, liver, brain, etc.

By far the most satisfactory treatment of pulmonary tuberculosis is to be had out in the open air, which can be carried out in this climate by means of sleeping tent and other apparatus destined to add to the patient's comfort in open air. Patients afflicted with tuberculosis should be taught the extreme importance of fresh air. He should be instructed to keep out of doors as much as is possible.

It is the importance of this plan of treatment that causes the physician to advise his patient to seek an equitable climate. In choosing a suitable climate for the consumptive, it is necessary to consider the age and physical condition of the patient, and the stage of the disease. In any case, the climate most suitable is one in which the patient feels well and gains in flesh and in strength. Dryness, altitude, pureness of air and an abundance of sunshine are to be considered in selecting a climate suitable for such patients.

Medicinally the treatment of tuberculosis is to be considered with two main facts in view:

First, one with reference to destruction of the specific cause, the bacilli.

Second, with reference to increasing the body resisting powers of the patient, thereby rendering the culture grown less fertile.

Unfortunately the former plan falls far short of the desired results. From a study of the pathological conditions present in pulmonary tuberculosis it is evident that the destruction of the bacilli by means of medication is impossible. However much good has been accomplished through the administration of antiseptic and parasiticides. In laryngeal cases benefits are derived from the inhalation of such remedies, chief among which, in my opinion, is creasote. Patients soon tire of this plan of treatment; since, to be beneficial, it

should be inhaled during most of the wakeful hours.

The internal administration of antiseptics to arrest the growth and development of bacilli, is perhaps a better plan. This, too, falls far short of the desired effects. Among such remedies creasote has the confidence of most of the profession. Its use, to the extent of toleration by the stomach, has resulted in lessening cough, and lowering fever and in the patient gaining in flesh and strength. Night sweats have also been much benefited by its use.

Thymol, terebene, terpinhydrate, turpentine, carbolic acid and formaline, have been used as parasitocides in the treatment of this disease, but results obtained are far inferior to those derived from the use of creasote.

Guaiacol carbonate, is of late extensively used in pill or capsule. The active principal of guaiacol is creasote. It is, however, better borne by some patients than is its active principal.

The second main indication in the treatment of this disease, namely increasing the body resistance and mobilizing the culture media, or soil upon which the bacteria multiply and develop, is aided very materially by the use of the above antiseptics. Judicious efforts at proper exercise and proper feeding are of paramount importance in building up the body resisting powers, as are also cod liver oil and tonics, strychnia and arsenic and iron.

Nature's resistance is greatly increased by proper appreciation and application of pure air, climate and sunshine. High altitude, fresh atmosphere and an even temperature are of great importance.

The feeding of milk and eggs, fish, flesh and fats is a great assistance to nature in overcoming the ravages of the bacillus tuberculosis.

Raw eggs and fresh unskimmed milk should form or go to make up the routine diet. The hydrocarbons are badly needed in tuberculosis and should be given freely unless there is impaired digestion, when their use should be discontinued. Oftentimes there is a poor appetite, with feeble digestion, which can often be overcome by a brief change of climate, a trip to the sea shore, or resorting to a rigid system of feeding.

Bitter tonics, and mineral acids often aid wonderfully in producing an appetite and in increasing digestion. In rare cases the desire for food and the digestion and assimilation of it is increased by the use of the various wines or liquors, however, their use and abuse should be judiciously guarded.

Among the annoying symptoms of this disease, perhaps the greatest is cough; which, when dry and accompanied by pleuritic irrita-

tion and pain, should be controlled by the administration of heroin or codeine. Creasote is a valuable remedy to relieve cough. It should be given either by inhalation or internally. It lessens the secretion and relieves some of the irritation.

The usual cough mixtures usually disturb digestion and are to be discouraged.

Fever does not as a rule, become an alarming symptom. Should the temperature become excessively high, it is best controlled by hydrotherapeutic measures. Antipyretics should not be used, for the reason that, we have already a weakened circulatory condition and the use of antipyretics would produce a greater weakness of the circulatory system.

Diarrhoea is a most trying and troublesome condition in tubercular patients. A condition which often ends the scene, through excessive depletion. It is a symptom often overcome by strict regulation of the diet. The withholding of all solid foods and the allowance of easily digested and assimilated substances. Medicinally the astringent course is to be pursued. Bismuth, salol, acetate of lead and opium, thymol and beta-naphthol are useful and beneficial. Most cases develop profuse night sweats, which are best controlled by the administration of agaricin and atropin combined. The use of camphoric acid in 20 gr. doses has been recommended to be given two to three hours before time for sweat.

Special attention should in all cases, be directed toward the appetite and digestion. Many lives are prolonged if not permanently benefited by the maintenance of a good appetite and digestion.

Cod liver oil and hypophosphites assist in increasing the body resisting powers, while creasote lessens the fertility of the soil upon which the bacilli grow.

Much has been said about tuberculin, whose field of usefulness is, according to most authorities, in establishing diagnosis and as a means of prognosis. Many practitioners regard it as a remedy of much therapeutic ability; while others employ it simply as a test. Personally, I have had very little experience in its use. If there is good to be derived from its use, it should be used early in the disease, since in the later stages there is generally a considerable temperature which becomes higher upon the administration of tuberculin.

The use of tuberculin as a specific remedy for pulmonary tuberculosis has not been proven. In most cases where it has been used, it has been used in conjunction with other remedies, hence it is probable that some of the benefits supposed to have been derived from its use, could be attributed to such other

remedies. Too much confidence or importance should not be placed in drug medication in the cure of this disease. The chief importance is to keep up the patient's appetite and strength.

Tubercular conditions of serous and synovial membranes should be dealt with surgically. Tuberculosis of bone and joint is surgical in treatment. Medicinal treatment being not only useless but dangerous, in that valuable time is lost in such treatment. Procrastination in surgical cases often leads to irreparable destruction and often death.

It is impracticable in this paper to consider the various tubercular conditions found in the human anatomy. If it were not that the subject becomes tiresome and lengthy much more could be said in reference to various lesions found in the body.

It is hoped, however, that a free discussion will be entered into, and that the facts not here mentioned will be fully studied.

PREVENTIVE MEDICINE.*

By JNO. E. WILSON, Butler.

The term medicine is used in its generic sense. It means preventive measures.

The most common and efficient measures for preventing disease, are included under the subjects of hygiene and sanitation. General hygiene or sanitation has to do with the air, food, and water of a community; also the refuse, or waste. The kind of air we breathe affects mind, and body. Impure air prevents mental activity; it also vitiates the blood, altering functional activity, and thus laying the foundation for chronic and incurable conditions. Again, there is not a disease of the respiratory tract that is not directly benefited by abundance of pure air. The sick need it even more than the well. We need it at night as well as in the daytime. We need it in cold weather as well as in the warm. At every moment and everywhere it is a necessity. The best sermon, the finest lecture, or the nicest entertainment becomes a drag when ventilation is neglected. School children especially, have been neglected in the past.

The character of the water supply of a community is next in importance to the air we breathe. Water, free from specific disease germs, may vary much in its adaptation to human needs. All water is in danger of contamination from disease germs. For drinking, to boil the water and cool it is a temporary safeguard against disease. One of the safest methods of securing drinking water is to have a well cemented cistern, tightly closed at the top, catching the water from a clean

metal roof, in the winter rains, and filter through charcoal. All superficial springs and wells are dangerous. Drilled wells seem to be a very same way of securing water for domestic use. The various mineral waters are at least harmless.

Fresh, clean, wholesome food is of equal importance to health. The nations that do not recognize this are far inferior. Our Government has done much in recent years to advance the interest in pure food. It has directed laws at inspection, public education, and sanitation. By these measures, new conditions have been established in canning factories, bakeries, slaughter houses, and packing houses. It has also abolished the public drinking cup, regulated hotel linens, and has improved barber shops, maybe, a little.

Sanitation has to do with public health and embraces many important features. It has controlled yellow fever by discovering and treating the cause, namely the mosquito. Sanitation is working a crusade against the housefly as a carrier of disease, such as typhoid. It is really the science of health. It is the means of preserving healthy conditions in thickly settled communities, as towns, cities, and armies; and the special care of infants in cities, especially in the summer.

All these measures tend to make difficult the existence of disease germs.

Personal hygiene relates to the individual application of the above mentioned elements. The value of personal cleanliness is self-evident. Our grandmothers used to bind up an abrasion with salves, and thus nurse it for weeks. We now cleanse a wound, sterilize it, and it heals by "first intention," in a few days. Many germ diseases are avoided by cleanliness. Lack of attention to mouth, nose, eyes and ears lead to catarrhal conditions from long irritation. The hair and nails are hiding places for many of our worst enemies.

The care of the special senses is a conservative measure. Knowledge of the care of the eye is very important. Any small defect or injury may result in impaired function or total loss. The ears should be frequently examined and much deafness prevented.

The nostrils may be the seat of a variety of small growths which will produce catarrhal symptoms even to the extent of hay fever, and many reflex nervous symptoms. A removal of the obstruction is usually attended with prompt relief. In the way of avoiding many secondary diseases, this is preventive medicine.

If many of the so-called colds were treated earlier we would have much less of bronchitis, pneumonia, pleurisy and tuberculosis. There is a law in automobile instructions to the effect that an injury increases by the square of

*Read before the Pendleton County Medical Society.

the time over which it exists. This rule might well be applied to human ailments. Most of the work of the specialist and the surgeon are conservative and preventive in character.

The common drugs are potent preventive agents when intelligently used. I need not dwell on the use of quinine, mercury, iron, arsenic, iodine, etc.

The manner of disposal of waste in a home or in a community is an important health factor. Decaying vegetation, aided by heat and moisture becomes a fertile source of germ life. Slops and kitchen waste thrown upon the ground near the home is to be avoided. Wherever flies are, they are attracted there, and they are well-known disease carriers.

Wherever mold will form, it is an indication that is unhealthy. The cows that furnish our milk should be healthy for our sakes, and for their own. The dreaded disease of tuberculosis will eventually be controlled only by prevention, that is, by such general, and personal, cleanliness as will prevent its transmission from place to place, or from person to person.

OBSTRUCTION OF THE BOWELS, INTUSSUSCEPTION.*

By C. K. KENDALL, Morgan.

Intestinal obstruction is a term applied to a condition of the bowels in which, by reason of some mechanical impediment or intestinal paralysis, the normal movement of its walls and contents can not take place. In its acute form it occurs as the result of no less than six causes: First, congenital malformation; second, invagination, or telescoping of portion of the bowels within the other, or so-called intussusception; third, strangulation by bands, diverticula, membranes, or by attachment to other organs, and by the slipping of a coil of intestine through an aperture; fourth, as the results of the twisting of the bowels, called volvulus; fifth, from the lodgment of foreign bodies, as gallstones, etc.; and, sixth, intestinal paralysis and distention.

Chronic obstruction arises from stricture, from tumors in the bowels, from tumors external to the bowels, and from impaction of fecal masses.

Congenital malformations, usually consist in closure of the intestinal tube by reason of improper development, and exist in any part of the alimentary canal from the oesophagus to the anus. These cases are usually surgical, with a very unfavorable prognosis and are better treated by early surgical measures.

INTUSSUSCEPTION.

The invagination of this condition is composed of three layers of the bowels. The intussusception is composed of the entering and returning layers, while the receiving sheath constitutes the intussuscepiens. To the point where the entering is turned sharply upon itself to form the returning layers, the name, apex, is applied, the word neck, is applied to the ring which results from the flexure formed by the returning layers as it merges into the sheath.

Intussusception may be separated into divisions, according to the severity of the condition, or according to the part of the intestine which is involved. Rafinesque makes three divisions, namely, those which are ultra acute, death taking place within the first twenty-four hours; those which are acute death taking place within the first week; those that are sub-acute, death taking place within a month or upward. From an anatomical standpoint, intussusception may be divided into the enteric, in which the small intestine is alone involved; the ileocecal, in which the ilium and cecum, together with the iliocecal valve are turned into the colon, and the ilio-colic, in which the ilium is prolapsed through the ilio-cecal valve, the latter retaining its proper position, at least for a time. When the condition is called, colic, it involves the colon only. In still other cases, the rectum is only affected, forming the rectal type of the malady. In the great majority of cases the upper segments of the gut are received into the lower, but occasionally the reverse condition occurs, and when this happens the term, retrograde, intussusception is applied. Double and triple intussusception has occasionally been noted.

ETIOLOGY.

The causes of intussusception are not clearly understood, but probably depend upon irregular innervation of the intestine, whereby a sudden, spasmodic contraction of one portion of the bowels occurs, the adjacent being relaxed. Intussusception of this character is not infrequently met with at the post-mortem table, having occurred at the time of dissolution. Polyps of the intestine may be forced along the lumen of the canal, thereby dragging the wall at the point of attachment and causing intussusception.

The frequency according to Leichtenstein and Bryant, of intestinal obstruction, excluding hernia, was as follows: In 1652 cases, 657 cases, or approximately 40 per cent., were due to intussusception. It is evident, therefore, that this form is not rare. Intussusception occurs most frequently during the twelve months of life. After the fifth year it becomes comparatively rare until the fortieth

*Read before the Pendleton County Medical Society.

or fiftieth year, when it begins to increase in frequency. The ilio-cecal region is the favorite site of invagination at all ages, but ileum invagination is exceedingly rare. If colic form occur, it is usually at the sigmoid flexure.

PATHOLOGY.

The pathological changes resulting from intussusception consist in an extravasation of the blood into the mucous membrane and mesentery of the part affected, and in an acute inflammatory process in the walls of the intestine, which particularly affects the serous surfaces of the entering and returning layers, so that they become glued to one another. Not infrequently, however, this condition does not arise, and adhesions do not form. As a result of the strangulation of the invaginated bowel, it some times happens that this portion of the intestine sloughs away.

And if sufficiently strong adhesions have formed between the neck and the upper portion of the intussusception, the coming away of this slough may result in the recovery of the patient. Very large portions of the bowels have been known to be passed in this manner.

Pampier has recorded one instance in which 124 cm., Botteher another in which 112 cm., were passed. In other instances, however, if gangrene of the bowel develops, perforation and general peritonitis ensue.

SYMPTOMS.

These depend upon the degree of constriction at the neck of the intussusception. Usually the first symptom is sudden and violent pain. This sometimes ceases as sudden as it begins, the patient being in comparative comfort. After an interval the pain returns, and the paroxysms become violent and prolonged, with shorter intervals at ease. Pressure does not always elicit tenderness; indeed, it sometimes seems to relieve pain. Vomiting is even a more constant symptom than pain, and usually begins early in the attack, but in adults it may be absent. Of all forms of intussusception the ileum invagination is the one which is most frequently accompanied by early vomiting, chiefly it produces the most complete obstruction.

In children a very constant symptom is the passage of bloody mucus. Out of 108 cases, analyzed by Martin and Hare, occurring in the first year of life, this symptom was absent in only four.

Tenesmus and bearing down is also commonly met with. In about one half the cases the tumor can be felt through the abdominal wall, and under the pliable abdominal wall in children it should be most carefully sought for.

Occasionally in the colic type the invaginated bowel can be felt in the rectum. The

movement of the bowel may distinctly change the position of the tumor.

PROGNOSIS.

The prognosis in intussusception is not good. Treated by the expectant method, the mortality is about 70 per cent. according to Leichtenstern.

The statistics of Martin and Hare give a mortality of 90 per cent. The mortality is greater in children than in older persons. The sloughing and discharges of the intussusception is always to be considered distinctly favorable, Martin and Hare found that in 408 children in whom slough had not taken place 85 per cent died. While out of 149 who passed a portion of the intestine 41 per cent. recovered. Sloughing rarely occurs before the second week of the disease.

The treatment of intussusception consists in the use of a fountain syringe filled with normal salt solution at a temperature of 105 degrees, and this fluid is to be injected slowly at the rate of four ounces to the minute. The pressure in the hydrostatic syringe should not be over two pounds. This method is available only when the intussusception occurs in the lower portion of the bowel. If it is in the ileum it is valueless. If, after pressure has been continued for a period of half an hour, the tumor does not disappear under gentle manipulation, abdominal section must be resorted to at once.

The older statistics to this operation were not very favorable, most of them being gathered before the days aseptic surgery was as well understood as it is at the present time, when the operation gives a much lower rate of mortality.

INTERNAL STRANGULATION.

Internal strangulation by bands is the next most frequent form of intestinal obstruction, about 36 per cent. of the classified cases. The condition occurs most frequently in males between the twentieth and fortieth years, and seems to arise in the majority of cases from a former peritonitis, although the bowel is occasionally strangulated by slipping through the foramen of Winslow or through a slit in the diaphragm. Out of 151 cases reported by various surgeons, the small intestine involved in 133.

The symptoms consist in sudden agonizing pain which is constant, although it has paroxymal increments. The pulse becomes rapid and weak; the temperature is abnormal; the vomiting is persistent, and becomes fecal; this condition of the vomit rarely develops before the beginning of the third day. Constipation is present, but fecal matter may be passed from the lower part of the bowels once or twice. If a large coil of gut is involved, a distinct area of thinned intestine may perhaps

be found. While the presence of this train of symptoms in a young child would be indicative of intussusception, in an adult it is indicative of strangulation by a band, for intussusception is rare in adults.

The only method of treatment which is satisfactory is operative.

VOLVULUS.

According to this condition occurs in 8 per cent. of fatal cases of intestinal obstruction. According to Treves .025 of 1 per cent., and according to Martin and Hare statistics in 4 per cent. Sometimes the intestine is twisted for three or four complete turns. The condition occurs more frequently after middle life, and more frequently in men than women. In 18 cases collected by Haven, 16 were men. In Martin's and Hare's 100 cases 64 were men. The twist is about the mesentery as an axis and involves the small intestine; occasionally it may appear in the colon, rarely the stomach may be affected. The twisting of the intestine interferes with its circulation, and this, combined with the decomposition of the intestinal contents and the resulting distention, soon produces peritonitis and even perforation. The abdomen is prone to become immensely distended.

The symptoms are absolute constipation, vomiting and abdominal distention. Meteorism is constant. The points in favor of a diagnosis of volvulus are the advanced age of the patient, the fact that the disease usually occurs in a male, that the pain is not as agonizing as in other forms of obstruction and the obstructed bowel is greatly distended.

The prognosis is much more favorable than other forms of intestinal obstruction. When intestinal obstruction is due to paralysis, the ease is most frequently some injury or an operation upon the abdominal contents. There is simply a dilated or kinked intestine, and the failure in peristalsis is due to paralysis of its muscular fibres. This is the obstruction which all abdominal surgeons greatly fear as a sequence of operations upon the peritoneal contents.

TREATMENT.

When the volvulus is due to paralysis after operation it is to be treated by the administration of concentrated salines repeated until the bowels are moved. When distention has reached a very great degree and vomiting is present, salines are no longer useful. The rectal tube should be passed in the hope of exciting peristalsis and drawing off gas. The patient should be frequently stimulated and the rapidly interrupted faradic current should be applied to the abdominal wall, or one pole may be placed in the rectum and the other passed to and fro over the abdomen.

If this condition is not due to paralysis after operation purgatives are absolutely contraindicated, and enemata can be of no value. Such cases should be subjected to surgical operation.

Obstruction from foreign bodies, arise from such articles as coins, pebbles, knives and scissors, gallstones and enteroliths. While gallstones are generally small, they may at times be very large, and are often greatly added to by concretions. Thus, Leichenstern states that one such stone was five inches in circumference, and he describes an enterolith nine inches in circumference. Such a stone is usually formed by concretions about a foreign body, as a cherry stone. Cases of intestinal obstruction of this character are, however, very rare, about 0.2 of 1 per cent. of all cases. The obstruction is usually found in the small intestine, sometimes at the ilio-cecal valve, and usually more frequently in females than males.

SYMPTOMS AND TREATMENT OF ACUTE ARTICULAR OR INFLAMMATORY RHEUMATISM.*

By FINIS LONDON, Woodburn.

Owing to the frequency of rheumatism at this season of the year, I feel like the committee on arrangements acted wisely in selecting rheumatism as one of its subjects for discussion, though I am afraid before they hear this paper through they will come to the conclusion that they didn't act very wise in making a selection to talk about this part of the subject.

Hines, I believe, was correct when he said, "The symptoms vary much in their severity."

The disease often begins abruptly, though many cases are preceded by a prodromal period of one or two days at which time patient feels unpleasant, aches in joints, complains of chilliness and possibly sore throat.

From my own observation I believe the greatest number of cases are insidious in onset, rather than sudden.

The involvement in most cases is multiple, especially if the ease is one of very great severity, the disease shows its predilection for the larger joints such as the shoulder, knee, elbow, ankle and wrist joints, none are exempt, not even the smallest. I think all agree that involvement of a single joint is possible, but not so common. Another peculiarity is the tendency to travel from one joint to another, and many times from a more recently infected joint to a joint primarily involved.

The most noticeable thing about the joints

*Read before the Warren County Medical Society

is the swelling, which no doubt, as has been said, is caused by the effusion into the joints, and inflammatory edema of adjacent structures, as ligaments, tendons with sheaths and muscles owing to this involvement of adjacent structures, is the reason why Tyson prefers the name acute rheumatism rather than acute articular rheumatism.

I believe there are but few diseases which give so much pain and render an individual so helpless as a severe case of rheumatism, the pain many times is so acute as to make it very difficult to give patient necessary handling, as adjusting of bed clothes, linen, etc.

The fever which accompanies rheumatism is indefinite in its duration and irregular in its course, this I suppose is due to the extent of involvement.

I have seen temperature reach as high as 104 or 105 degrees, do not recall of ever seeing a case with temperature reaching 108 or 110, as is recorded in our text books, and may have been observed by some of you gentlemen here. This extremely high temperature is said to occur in the meningeal form, and is associated with cerebral symptoms, such as severe headache, delirium, unconsciousness, cyanosis and ending frequently in death.

The cardio-vascular symptoms are of very great importance in this disease, the pulse is rapid, 100 or more beats per minute, often pulse rate and temperature do not compare with each other. Andrew says, "Cardio-vascular complications are liable to occur in any case, even the mildest, or at any stage of the disease."

Endo-carditis is said to be the most frequent cardiac complication. No authority that I have noticed gives it at less than 25 per cent., and one, LeLancey, gives it at high as 60 per cent. The left side of heart is oftenest involved, and the mitral valves more frequent than the aortic.

Pericarditis is said to occur as a complication in at least 10 per cent of cases, is recognized by the characteristic loud friction sound in contrast to the soft blowing murmur of endocarditis.

Myocarditis is said to occur also, but not so frequent as either one of the others mentioned, fortunate for the patient that it is absent as often as it is, for it is considered a very serious complication.

Another symptom which no doubt many of you have noticed is the free perspiration with its peculiar odor. This free perspiration often gives rise to the sudaminae, other skin eruptions as erythema and urticaria also occasionally occur.

The function of the kidneys is interrupted, quantity of urine is diminished, highly colored with specific gravity increased, the deposit

of urates is marked and albuminuria is often present, especially to a slight degree, though possibly not any more so in this disease than in many other acute febrile diseases.

The subcutaneous nodules spoken of by Barlow and Warner, consisting of small firm bodies attached to tendons and fascia situated near joints and more frequent in children than adults, together with such pulmonary involvement as pleurisy, bronchitis, or pneumonia are to be regarded more as complications than symptoms of the disease.

I know quite well the symptoms recited in this paper are lacking very much, and have failed to mention many signs and things you observe in a case of rheumatism, however I hope what has been said will be sufficient to give a reasonably good idea of this so common and much dreaded malady.

Now to the second, or last, part of our subject, namely treatment. This interests the patient more than anything else.

The stride, or advancement, in the treatment of this disease no doubt compares favorably with that made in the treatment of most other diseases which the physician is called to treat, so the old idea, (blankets and six weeks) has lost many of its former advocates.

I suppose all agree with Stengel, that the most important elements in treatment of any case of rheumatism, are rest, diet, and medicaments; from the first patient should be put to bed and remain there until it is considered safe for him to be up, rest and quietude no doubt benefit patient in many ways, first, as we are dealing with a condition attended with fever, which causes loss of tissue as is occasioned by any other acute febrile disease. Second, quietude and rest lessen blood pressure and cardiac action, by so doing cardiac complications may be avoided or greatly reduced. Third, rest also adds to the patient's comfort and is essential for the subsidence of the local lesion.

The old rule requiring patient to lie between blankets, is not so universally practiced to-day, but all favor the patient being dressed in flannel and having a warm bed.

In addition, there must be something done for inflamed joints, its effect is two-fold: First, satisfies the patient's mind and causes him to believe you are doing something for him. Second, for the real worth and merit there is in it, as for the local applications recommended I am sure I could not begin to enumerate them, they all possibly possess some worth, and each one generally has his favorite. When pain is very severe benefit may be had from fomentations applied to joints wrung out of hot water, or from Fuller's lotion, or lead, water and laudanum. Some one has suggested as a local application

ether, alcohol, oil of gaultheria equal parts of each and soap liniment to make one pint.

Andrew suggests the local application of salicylic acid together with lanolin, oil turpentine and benzoated lard.

The highly recommended preparations for local use, made by the different pharmaceutical houses no doubt owe most of their virtue to the methyl salicylate which they contain. Stengel says he has seen marked improvement both in local manifestations and secondary fever follow application of splints and casts.

The disease, like all others, is one in which patient's vitality and strength must be sustained by administration of a reasonable amount of food, possibly no article of diet serves the purpose as well as milk and light broths, in addition to this limited amount of whites of eggs, in form of orange ade, or egg albumen, etc., may be given. After acute symptoms have subsided in addition to what have been mentioned patient may be given meat juices, cereals, etc., plenty of water, either plain or in the form of lemonade, should be given also.

The remedies given internally for the control of this disease as you all know are really two, namely, salicylic compounds and alkalies. These remedies may be given separately or in combination. Belonging to the former group the two used most are salicylic acid or salicylate soda, some prefer salicylic acid or one of its compounds of which aspirin, I am sure, is the best; others prefer salicylate soda, these agents lessen the pain, mitigate the fever and Williams thinks protect against cardiac complications, though others do not credit them with the latter.

My opinion is that in treating rheumatism with these agents, the physician must find out which one is best suited to patient, personally, I do not believe salicylate acid or aspirin is the drug for all cases. I have more than one time seen patients who would complain after taking aspirin, of the burning sensation in the stomach.

Stengel thinks salicylate soda may be given to most all cases if given in solution and followed with alkali.

The alkaline treatment is said to obviate the occurrence of heart complications, especially endo-carditis and shorten period of convalescence.

It may happen that what has been mentioned for relief of pain may not be sufficient, in such event, morphine or some kindred preparation may have to be used therefore caution should be exercised in the use of such drugs, less dependance be acquired.

Such complications as hyperpyrexia, cardiac involvement, etc., are to receive same treatment as if they should occur in the course of any other disease.

I feel like the subject would be incomplete if I did not make some mention of the serum treatment, which is being put forth to-day. It was thought this might prove to be the one thing long hoped for. As for myself I am not able to say what it really merits, for my experience with it has been very limited, from what I have noticed from reports. I am sure it has not yet proven to be what it was hoped it would be.

PREVENTIVE MEDICINE.*

By O. W. BROWN, Lenoxburg.

The subject of preventive medicine is so exhaustive that an attempt to even present the most practical side of the subject in a short paper as this will be, will only give us a text for the discussion. This I hope will be taken up by every member present.

The doctor (unlike all other business men) is free and willing to impart knowledge to his customers that will lessen his earnings and thereby cause a depreciation in a business that he has spent months and years to learn. How many business men of this or any other town or city would make this sacrifice so freely as the doctor? I dare say there is none who would advise their customers to live in such a manner that their purchases would be reduced each month and year.

But this is exactly what the conscientious, self-sacrificing and scientific medical man is doing every day. Even if this advice should be remunerated in dollars and cents, he would never be paid for the real good and happiness that he is responsible for.

Preventive medicine has revolutionized the whole world in the past few years. Time was when smallpox, yellow fever, cholera, plague and many other diseases caused desolation of whole cities, and even empires were almost depopulated by these terrors of a few hundred years ago. History tells us that the decline of the Roman empire was really due to the prevalence of malaria, that sapped and undermined the health of its people, rendering them inert in both body and mind. Today how little we think of malaria as a menace to our business world.

Only in very recent years we know of the horror-stricken inhabitants of our Southland when a case of yellow fever was reported in some of the southern cities. Hundreds and even thousands would wend their way to safer climes, while those that were compelled to remain died in great numbers.

Why is it that the citizens of that Southland can now lie down to peaceful slumber and know for a certainty that the yellow

*Read before the Pendleton County Medical Society.

death, (as it has been called), will not claim them if they only obey the doctor? It is preventive medicine.

Major Reed sleeps the sleep of a martyr after being stung to death in his improvised cage, in order to prove to the world that yellow fever was caused by the bite of a certain kind of mosquito.

We all remember the failure of the French to build the Panama Canal, but it was not for the lack of finance or genius on their part. It was simply the germs that cause yellow fever, dysentery and malaria. This hotbed of disease has been made just as habitable as some of our most modern and up-to-date cities, from the very fact that American science in the way of preventing disease has proven to the world that infinitesimal microorganisms were holding a country captive, and no doubt would be to-day were it not for the untiring efforts of American doctors.

It is said that in the Civil War between the states, more men died of preventable diseases than were killed by bullets. Even in the late Spanish war we can recall the ravages of dysentery, typhoid fever and malaria, all preventable.

One credit must be given to all the different phases of preventive medicine, but at present the serum, vaccine and bacterin treatments seemed to be foremost in the minds of most medical men. When a thing has been proven to us, and we no longer have room for argument we sometimes wonder why we were so dull not to understand sooner. When Robert Jenner discovered the vaccine for smallpox more than one hundred years ago, there were skeptical medical men then, just the same as to-day. His new treatment was branded as a farce from far and near, and he was proclaimed a fakir, but we don't have to plead for his sincerity and what proved to be a life-saver at this time.

This vaccine has been the forerunner of all other remedies discovered along this line, and has proven that there is an absolute certainty in the prevention of smallpox in most all cases or individuals.

For more than one hundred years after this vaccine was used, there was no successful treatment of disease along this line, but in the short space of seven or eight years the bacterial vaccine therapy has assumed proportions of great magnitude. In fact it has drifted to extreme bacteriotherapy. Although the profession does not recognize that a scalpel and a license to practice make of any physician a skilled and competent surgeon, it has come to pass that the possession of a syringe and a bulb of commercial stock vaccine implies an expert bacteriotherapist.

This, we can readily understand, may do

great harm, and it undoubtedly has from what we can glean from literature.

Bacteriologists tell us that diseases are caused by germs, and recently it has been stated that every departure from the normal state of the body or any part of it is directly or indirectly brought about by some sort of microorganism. This would imply that our only hope of combatting all forms of diseases is by the use of bacterial vaccine therapy. This may read alright to the over-enthusiastic bacteriologist, but in practice we have found it to be erroneous, for these remedies even in the hands of experts along this line fail utterly in many cases. Drug houses have exploited these remedies in the past two or three years to the medical profession and used case reports signed by M. D. till I am afraid many have become over-zealous and made to believe unauthentic statements.

I have not used vaccine therapy except in well defined cases that seemed to call for this special form of treatment, and have seen good results in all but one.

No doubt many failures are due to a faulty diagnosis, too large dosage, too long or too short intervals between doses, stock supplies that have deteriorated, contamination during manufacture, failure to have a report from a bacteriologist on the case.

But with all the failures tabulated and the cures recorded, we yet have a happy medium to choose from and do wonders toward preventing and curing diseases that a few years ago were beyond our control when drug medication failed.

If the bacterial factors were known and could be isolated in all cases we could hope to obtain much better results from bacterial therapy. But the etiology of many of our diseases are not yet known, and therefore this plan of treatment in such diseases is purely empirical, yet we are justified, I believe, in many cases to use a bacterial or vaccine product that we know to have been successful in other similar cases without waiting for a report from our bacteriologist, for with uncontaminated bacterial vaccines in proper doses, skilfully administered, direct harm is most uncommon.

Typhoid vaccination has become compulsory in many countries where many individuals are compelled to live in closed quarters, and it is astonishing to know how the death rate has been reduced. It is impossible to gather together several thousand men as in our armies and navies without finding some that are typhoid carriers. This explains why in former years our soldiers died of this disease in great numbers. To-day few deaths are reported among armies and navies be-

cause of preventive medicine and typhoid vaccine.

The Canal Zone of twenty years ago and of to-day should so impress upon the medical men and laity as well, that American bacterial therapy along with general preventive medicine has come to stay.

Fronde, after visiting the Isthmus in 1885-6, wrote as follows: "In all the world there is not, perhaps, now concentrated in any single spot so much swindling and villainy, so much foul disease, such a hideous dung-heap, of moral and physical abomination as in the scene of this far-famed undertaking of nineteenth-century engineering. The scene of operation is a damp, tropical jungle, intensely hot, swarming with mosquitoes, snakes, alligators, scorpions, and centipedes; the home even as nature made it, of yellow fever, typhus and dysentery, and now made immeasurably more deadly by the multitudes of people who crowd thither."

Colonel Gargas estimates the number of deaths that took place during former times at 22,000, all preventable diseases, and all among laborers attempting the task that this Government is about to complete.

I refer to this as an example of modern movements in the way of preventive medicine. It explains very forcibly what this subject means to this and all other countries and behooves us to be ready to grasp any and all remedies that tend to annihilate and prevent such death dealing diseases.

Bacterial and vaccine therapy constitutes only a single phase of this subject, and hence it is difficult to discuss this without referring to other things equally important. One phase of this treatment I wish to mention only to condemn that is, the "rheumatism phylacogen." We don't know the etiology of any form of rheumatism and when we use a conglomeration of bacterial products that we know nothing about nor what the effect will be on our patient, I believe we are practicing empiricism and should steer clear of such remedies. In the first place the dose is so bulky and must be repeated so frequently that most patients will not permit its use. Secondly, the reaction following its administration is so intense in some patients as to cause alarming symptoms. It seems to cause a severe shock to the whole system in some cases and even death in some, so if we had any assurance of a cure it would be a question whether or not to use it. I used it in one case with good results, but am now afraid of it and would insist on leaving it out of the rheumatic remedies.

Bacterial vaccine therapy might be compared to drug medication in a sense, for if we know the physiological action of a certain

drug and find a disease that we know it to be indicated in, we will usually get the desired results. But if we know nothing of the action of a remedy and are not familiar with the etiology of the disease in question we can't hope for brilliant results. Just so with bacterial medication. We must first understand if possible the prevailing organism present, and then choose the appropriate vaccine or baeterin.

It was formerly taught that most all the cases of infection of a severe type were of the streptococcus variety, but this is not the case, for some very severe infections are of the staphylococcus strain, or perhaps many different varieties of cocci may be present. So it is the skilful use, and not the abuse of these remedies that should interest us most.

NEWS ITEMS AND COMMENTS

It is a pleasure to note that the Pitman-Myers Company of Indianapolis has changed its name to the Pitman-Moore Company. This is in evident recognition of the effective work and high standing of the President of the Company, Mr. Harry C. Moore. The Pitman-Moore Company is one of the best of the pharmaceutical houses. The inspectors of the State Board of Health have especially found that their thymol and soda capsules are the most effective of any they have been able to secure. The JOURNAL predicts a useful and successful future for the Pitman-Moore Company.

Dr. John A. Jones, aged seventy-six, a physician of Calvert City, Marshall County, died on April 15th after a short illness of pneumonia. He had been a member of the Kentucky State Medical Association and of his county society for many years and his death will be lamented not only by the members of this Association and his large clientele but by his many friends throughout the State.

At the home of Hon. John W. Sisco, on Thursday evening, January 29th, there were united in marriage two of our most popular young people in the persons of Dr. Charles McClure, of Cox's Creek, this county, and Miss Mary Sisco, of Bardstown. Dr. McClure is one of our most active, energetic, popular and prosperous Nelson county doctors, and numbers his friends by legions. To say that his bride, Mary Sisco, is popular is only a mild expression: to know her is to love her. Her joyous greeting coupled with her sweet smile, which she gave to all who met her, made her a universal favorite we predict for such a union a happy life and from our heart we hope that our prediction will be true.

THE FORUM

JOHN G. CECIL.

TO THE EDITOR:

It was with deep regret that I heard of the death of my classmate and friend, John Giles Cecil.

In September, 1877, we entered the Hospital College of Medicine, Louisville. In a short time we were friends. For the spring term of lectures of 1878 a free scholarship was offered to the two first course students standing the best examination on all branches. Dr. Cecil and I got the appointments. By this time we were the best of friends, he calling me Jodie and I calling him Johnny.

At the beginning of the fall and winter term of 1878, each of us knew that the first prize of the faculty for the best standing on all branches would be won by one of us but our friendship remained the same. I do not believe either of us ever had an envious thought against the other. But Johnny got the medal.

On the night of the 26th of February, 1879, at the Public Library Hall Johnny was awarded the first medal. When the curtain dropped, I was the first to congratulate him on his success and there was no envy or soreness in the congratulation; for I knew I was beaten by one who had contended for the prize and that he was worthy of it in every respect.

Miller, LaBrey, Gilmore, Mothershead, McKinley, Cecil, and perhaps others that I have not heard of, of the class of 1879, have passed into the waiting room of the Great Physician.

The members of the faculty that signed their names to the diplomas of the class of 1879, Frank C. Wilson and Dudley S. Reynolds are all that are now living.

"My heart's desire and prayer to God," is that "When the mists have cleared away," and "the roll is called up yonder" that we will meet 'over there.'"

I offer this as a tribute to my departed friend and classmate.

J. F. JONES.

Hospital Architecture.—R. E. Schmidt, Chicago (Journal A. M. A., January 24), sketches the construction and architecture of the ideal large charity hospital in all its departments from the administration building down to the garbage incinerators. The article is not capable of a brief abstract as it is all details, but it is worth reading as a contribution, the result of a careful study of the subject.

MEMORIAL ON THE LIFE OF DR. THOMAS OVERTON MEREDITH, HARRODSBURG, KENTUCKY.

Dr. T. O. Meredith was the son of Dr. Joseph Shelton and Marsella Meredith, was born August 3rd, 1863, in Goodland County, Virginia; died January 30th, at Rochester, Minnesota. He received his literary education in the country schools of Louisa County, Virginia, and in private schools; his medical education was received in Baltimore, Maryland, at the Baltimore Medical College. His resources were meager and he took the four years' course in two years, receiving the highest marks and medals in most classes and second highest in others, and was graduated in 1887. He took post graduate courses with Mayo Brothers. As a private citizen he helped organ-



DR. T. O. MEREDITH

ize the Citizens Bank of Burgin, Mercer county, Kentucky, at first called the Farmers' Bank and was its President about fifteen years, when he resigned, having moved to Harrodsburg, Kentucky. He was Mayor of Burgin many times, was nominated and elected with no effort on his part.

Dr. Meredith was instrumental in building the public school building, and after enlarging it including a high school, and also helped to build the town water supply and improve the general health of the town and was interested in all the progressive improvements that benefited the community. He was a member of the Knight Templars, Knights of Pythias, Macabees and Woodmen. He was a railroad surgeon for both the C. N. O. & T. P. and Southern Railroads, while he lived in Burgin, and also in Harrodsburg, and read many papers before the conventions of Railroad Surgeons, and was President of the St. Louis and Louisville Division of Southern Rail-

road Surgeons, and was a member of the Kentucky Railroad Surgeons' Association, Mercer County Medical Society, Central Kentucky Medical Association, and its President; member of the Kentucky State Medical Association and was a devout member of and elder in the Presbyterian church; was married twice; his first wife was Miss Mary Ella Rinehart, of Covington, Va., his second wife, Miss Mary A. Rice, of Burgin, Ky., and was blessed with seven children, Mary Ella, Lucille, Virginia, Alide, Elizabeth by his first wife, and William Rinehart, Joseph Shelton and Ann Overton by his second wife.

Dr. Meredith was specially congenial and companionable, an affectionate, devoted and exemplary husband and father; his home life was well regulated and ideal, no favoritism was shown to any one member, but all treated alike, he was patient, forbearing, kind, and just and gentle to all within and without the home circle, with whom he daily came in contact. He tried to live an ideal Christian life, a loyal Kentuckian and American citizen; he honored and blessed every station of life he occupied; and it can be truly said of him that those who knew him best honored and loved him most. He was a living example to pattern after, his last letter to his children from Rochester, Minn., the day before he was operated, upon was replete with affection, devotion, solicitude and love for their happiness, success and welfare and is indeed truly pathetic and with an abiding trust in the Great Physician who doeth all things well.

The following eulogium is from the pen of Dr. Steele Bailey, Robinson, Utah:

Dr. Meredith had a wide and extensive practice during his professional career of over twenty-seven years, a large share of the most important cases coming under his care. His knowledge was well-grounded in principles, his perception quick, and his action prompt. His interest in the affairs of his profession was very keen.

He was one of the early members of the Central Kentucky Medical Society and was a constant attendant of its meetings.

He presented numerous reports of cases and pathological specimens occurring in his practice, and a number of papers on medical and surgical subjects came from his hands, expressing his ideas with great accuracy in plain English.

He was unusually liberal in his views of medicine and kindly charitable to all practitioners.

Professionally he stood high among his conferees, and socially he occupied an enviable position. His family relation brought him into influential connection with some of the best families in the county, and his domestic relations were peculiarly happy.

Comparatively early in his professional life

his practice became lucrative; he lived with wise economy and acquired an abundant competence.

As a member of this society his record was clear and convincing.

His ambition was to gratify those he served, and in the performance of his duties his sound sense and conservative views on all questions won for him the respect and esteem of his colleagues.

He has left behind him the memory of a noble character worthy of our emulation.

S. BAILEY,
J. TOM PRICE,
J. G. CARPENTER,
Committee.

COUNTY SOCIETY REPORTS

Breathitt—The Breathitt County Medical Society met March 13, 1914, in Jackson, and elected the following officers for the year 1914:

President, O. H. Swango; Vice President, Wilgus Bach; Secretary and Treasurer, Earl Mooreman.

EARL MOORMAN, Secretary.

Caldwell—The Caldwell County Medical Society met at the city hall in Princeton on Thursday, March 12, 1914, with the following in attendance: L. J. Spickard, Fredonia; L. O. Young, Cobb; Frank Walker and W. P. Morse, Farmersville; R. W. Ogilvie, C. J. Pollard, P. R. Shelby, J. M. Moore and W. L. Cash, Princeton.

The meeting was called to order by the president, C. J. Pollard, and the minutes were read by the secretary, R. W. Ogilvie, after which they were adopted.

This being the first meeting the Society had held within a year, the election of officers was called for. A few talks were made, advocating the election of new men for each of the offices of the society, and in keeping therewith the following officers were elected for 1914: President, L. J. Spickard; Vice President, J. Z. Barber; Secretary-Treasurer, W. L. Cash; Delegate to State Association, J. M. Moore; Alternate, Frank Walker; Board of Censors, L. O. Young for three years, and W. P. Morse for one year.

The society adjourned to meet again on the second Tuesday in April.

W. L. CASH, Secretary.

Christian—The Christian County Medical Society met in the Avalon, Hopkinsville, Tuesday, March 17th, at 12 o'clock with the President presiding.

There were present 34 members, 6 dentists, 1 druggist and the Rev. L. B. English.

At 12:30 we were invited out to dinner, that had been previously arranged by our popular launderer, Mr. T. L. Metcalf. After thanks we did justice to a three course dinner followed by

an after dinner talk by H. C. Beazley as spokesman for the society and address by Rev. English, his subject being "Brotherhood of Man."

After reading and adoption of the minutes of the last meeting and transaction of some new business the chair entertained a motion from Dr. Keith, seconded by Dr. Bell, for the chair to appoint a committee of not more than two to receive contributions from the members to be spent by the committee in presenting Mr Metcalfe a token of our appreciation of his kindness. Motion passed unanimously and each member freely contributed \$2.00.

J. A. Barker, Perkins, Williams and Barnes all presented clinical cases for diagnosis. All the cases received close examination and were freely discussed.

D. B. Roach read a very interesting paper on Sero-Diagnosis and illustrated his paper with black board drawings. The discussions of this paper proved that it was a live paper on a live subject.

Owing to the lateness of the hour we adjourned leaving the balance of our program for the next meeting, the third Tuesday in April.

W. S. SANDBACH, Secretary.

Daviess—The Daviess County Medical Society met at the City Hall on Tuesday, March 17th.

The President, Dr. J. M. Stuart, presided and forty-eight members were present.

C. M. Rice presented a transfer card from the Hancock County Medical Society, and was admitted to membership.

R. L. Foster, who lately came here from Oklahoma, was admitted to membership.

F. M. Sherman reported a case of facial paralysis. An interesting discussion followed. Some took the ground that treatment would do no good; others thought it would—all gave a favorable prognosis.

A. McKenney reported a case having periodic fever, but quinine did no good.

Ed Barr reported a case of double tubal pregnancy. Both tubes and ovaries were removed, but woman still menstruates regularly.

F. A. Miller reported case of man who fell suddenly in convulsion. Had never before had symptoms but urine was loaded with albumen.

J. T. Dixon read a paper on "Some Problems in Infant Feeding." Quite an interesting discussion followed in which Ed Barr, J. L. Carter, J. W. Ellis, C. H. Todd, W. E. Irvine, and J. W. Barnhill took part.

R. L. Schroeder read a paper on "The Laboratory Methods the General Practitioner Should Use." Discussed by C. M. Rice, J. T. Dixon, J. Glahn, O. W. Rash, W. T. Stirman and A. McKenney.

J. J. RODMAN, Secretary.

Harlan—The Harlan County Medical Society met in the office of the Secretary. No papers were read but several subjects were discussed.

The society meets the first Monday in each month.

WM. M. MARTIN, Secretary.

Henderson—The Henderson County Medical Society met in regular session at Henderson on January 12th, 1914:

The President, W. A. Poole, made a short talk in which he outlined the work of the club for the ensuing year.

D. O. Hancock handed in his report on the Annual Banquet in which he stated it was a great success in every particular.

P. Ligon made his report as retiring secretary and treasurer. The report showed the finances to be in good condition.

Thomas Sellars made application for membership in this society, and his application was referred in the regular way to the Board of Censors.

D. O. Hancock presented two cases of hare-lip that had previously been operated upon and then read a paper on "Hare-lip" which was very interesting. The following doctors took part in the discussion: Cyrus Graham, W. S. Galloway, W. A. Poole, B. J. Neary, and D. O. Hancock closed the discussion.

B. J. NEARY, Secretary.

McCracken—At the annual meeting of the McCracken County Medical Society held December 19, 1913, the following officers were elected:

O. R. Kidd, President; E. B. Willingham, Vice President; Delia Caldwell, Secretary; H. P. Lewis, Treasurer; Vernon Blythe, Censor; H. G. Reynolds, Delegate for 1914 and 1915.

As this was a called meeting for the election of officers, the regular meeting falling on Christmas eve, there was no other business.

DELIA CALDWELL, Secretary.

McCracken—McCracken County Medical Society met on January 14th at the Woman's Club. After interesting reports of clinical cases by Drs. Vernon Blythe and C. E. Purell, the society adjourned to the dining room where a delightful banquet was served. Covers were laid for twenty.

DELIA CALDWELL, Secretary.

Owen—The Owen County Medical Society met at the office of Drs. Foster and McBee, on March 5th. All members present except one.

The meeting was very interesting from beginning until adjourned.

G. Purdy gave an excellent talk on "General and Local Treatment of Chronic Catarrh of Nose and Throat."

The discussion was led by W. E. Foster.

A. E. Threlkeld read a very interesting paper on "Early Diagnosis of Pregnancy."

This was followed by a general discussion.

Meeting then adjourned to meet with J. W. Botts, the first Thursday in April.

J. H. CHRISMAN, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of John E. Wilson, at Butler, Ky., with the following members present. Beckett, Blaydes, Brown, Daugherty, Eekler, Ellis, Hopkins, Kendall, John E. Wilson, J. Ed Wilson, Woolery, Yelton, J. A. and J. H. Caldwell, of Newport visiting. The meeting was called to order by Dr. W. H. Yelton in the absence of the President.

This was Tuberculosis Day and **John E. Wilson** read a paper on "Diagnosis of Tuberculosis."

S. M. Hopkins read a paper on "Prevention of Tuberculosis."

T. T. Eckler read a paper on the "Treatment of Tuberculosis."

These papers were very thoroughly discussed by nearly every member present, and all seemed to enjoy the papers and discussion thoroughly. We also had a splendid report of clinical cases. This meeting was enjoyed by all present.

W. A. MCKENNEY, Secretary.

Shelby—The Shelby County Medical Society held its regular monthly meeting in Shelbyville, Thursday, March 19th, with the following members present: Drs. Hughes, Morris, F. M. Beard, Holt, E. B. Smith, J. N. Smith, Buckner, Lawrence, Nash, Berryman, Sellers and Allen. In the absence of the President, Lowry Beard, J. N. Smith presided. The essayist, Dr. Jones, not being present an informal session was held in the forenoon.

At high noon the society sat down to an elegant dinner, the conception of our homeopathic brother, E. B. Smith, who for once laid aside his well known tendency to serve out portions in infinitesimal quantities and outdid his allopathic brethren in the number and variety of well prepared and elegantly served viands, all well ahead of their season. The amplexness of this feast was only surpassed by the enjoyment of those fortunate enough to be present.

V. R. Jones, coming in during dinner, read, at the afternoon session, his paper on "LaGrippe." This paper was an unusually good one and showed serious thought and extensive research on the doctor's part in its preparation. Its appreciation by the society was shown in the very full and animated discussion which it brought out, nearly every member taking part.

W. E. ALLEN, Secretary.

Warren—The Warren County Medical Society met in the Council Chamber on January 14, 1914,

with the following members present: Drs. T. W. Stone, Briggs, V. U. Moss, Lewis, Strother, Simmons, Hall, Blackburn, South, London and Rutherford.

The house was called to order by the president, T. W. Stone, who made an interesting talk in which he expressed desire that each member would contribute his part to making this a successful year of our meetings, and advised that in the production of our papers that we not copy from text, but to rely largely on our personal experience with the diseases upon which we write.

The secretary then read the minutes of the last meeting which were approved by the house. A motion was then made and carried that each essayist be limited to twenty minutes in reading his paper, the member who opened the discussion to ten, and other members to five minutes each.

There being no other business the house then took up the regular program of the meeting, which was as follows:

J. H. Strother on "Lobar Pneumonia in Children," and **J. F. Rogers** on "Broncho Pneumonia in Children." The discussion to be opened by **V. U. Moss**.

J. H. Blackburn on "The Indications for Operation for Gall Stones," the discussion to be opened by **A. T. McCormack**.

Dr. Strother was not present.

J. F. Rogers read an interesting paper on the subject, "Broncho Pneumonia." The discussion was opened with a very practical talk from V. U. Moss. He laid particular stress upon the gravity of the disease and from his years of experience was able to give us valuable advice in regard to its treatment, after which each member of the society interestingly discussed the subject.

J. H. Blackburn then gave an interesting talk on the "Indications for Operation for Gall Stones."

A. T. McCormack not being present the other members of the society proceeded to discuss the subject.

A motion was made and carried that a committee of three be appointed by the President to arrange a program for the next meeting. Drs. Reardon, Blackburn and Rutherford were appointed.

Although the entire program was not rendered on account of the absence of two of the essayists, we had a very interesting meeting.

There being no further business to come before the house, a motion was made and carried to adjourn.

B. S. RUTHERFORD, Secretary.

Tapeworm.—Treatment. Thymol in cachets of 0.25 Gm. (4 grains) to be given in the morning on an empty stomach for eight days. Worm usually expelled on third or fourth day. Twenty-three cases treated with success. All alcohol to be stopped during treatment.—Artault.

JEFFERSON COUNTY NUMBER

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TOBACCO, ITS EFFECT ON LONG-EVITY.

By E. S. FREY, Louisville.

It has been said that some very brilliant members of the Jefferson County Medical Society, men in the zenith of their career and usefulness, have met an untimely death, caused by direct or indirect over-indulgence in the use of tobacco.

The use of tobacco in its various forms is so general that the subject is of almost universal interest. The smoker may not be willing to give up his indulgence, but he is entitled to know its dangers, while educators and others who have anything to do with the young, whether by example or by precept, will appreciate scientific facts with which to back up proper deductions from experience.

Columbus was the first European to discover tobacco. When he and his companions saw the Indians smoking it, and blowing the smoke through their nostrils, they were as much surprised as they had been at the first sight of land. Sir Walter Raleigh, in the sixteenth century, found tobacco on the plantations of Virginia, and introduced it into England and Ireland.

Tobacco was formerly used as an infusion in the treatment of dropsy, in spasmodic asthma and the paroxysms of difficult breathing in emphysema. Five drops doses of wine of tobacco was a popular remedy for hiccough and an enema of tobacco was a very effective remedy in the treatment of tetanus. In the form of an ointment, tobacco was used in prurigo and scabies. But so many unfortunate accidents have resulted from the external

and internal applications of tobacco, that other remedies have taken its place.

Tobacco contains a powerful alkaloid, *nicotine*, in combination with malic acid. It is an oily, colorless liquid, strongly alkaline in reaction. Its taste is hot and acrid, and its odor peculiar and disagreeable.

Lee, in his analysis of tobacco, found in smoke from 100 gms. of tobacco 1.165 gm. of nicotine, 0.146 pyridin and collidin, the former derived from the destruction of a portion of the nicotine, the latter from combustion of the fibre in the tobacco. In addition there is H. C. N. 0.08 gms. ammonia 0.36 gm. Carbon monoxid; the vapor of tobacco contains numerous basic substances of the pycolinic series, and cedes to caustic potash, hydrocyanic acid, sulphureted hydrogen, fatty acids, phenol, creosote. Also aldehyds, particularly aldehyd furfurol. The smoke of a single Virginia cigarette, according to Langet experiments, may contain as much furfurol as is present in two ounces of whiskey.

Strychnia is according to Houghton, a true physiological antagonist. Ergot, digitalis, belladonna, ammonia and alcoholic stimulants, antagonize the effects of tobacco on the heart and arterial system.

Tobacco is a decided motor depressant, a severe and very depressing nauseant and emetic, it is locally an irritant to the mucous membrane, and produces burning pain at the epigastrium. The emetic effect is due to three factors—its cerebral action, its local irritation of the gastric mucous membrane, and third, its specific emetic property. Its active principle, nicotine, diffuses into the blood with great rapidity. It corresponds in the mode and intensity to hydrocyanic (or Prus-

sic) acid. In two cases narrated by Taylor, a fatal result ensued in three minutes and five minutes after a toxic dose. Death comes through its paralyzing action on the muscles of respiration.

The amount of nicotine inhaled during smoking depends not so much upon the tobacco smoked, as upon the form in which it is smoked. The greater the condensation area between the point of combustion and the entrance into the mouth, the more nicotine will be inhaled.

Tobacco differs widely in its action upon different individuals, and no sweeping statement can be made. Smoking raises the blood pressure by vaso constriction, accelerates the heart and respiration, and increases the intestinal movements. This explains the pleasure so large a number of people take from the use of tobacco. They claim it increases the mental energy and output, and in some measure augments the power of judgment by exciting the nerves of the brain. The moderate smoker, thus defends his stand, but he can not long content himself with a few puffs daily. The quantity of tobacco, is increased, more stimulant is needed, the habit is established and this veritable poison now holds you as a slave.

Gastro intestinal derangement now manifest themselves. Gastric hyperacidity is one of the early symptoms of nicotine poisoning. The various derangements of the stomach accompany the excessive use of tobacco seem to be productive of cardiac neuroses and we have the "tobacco heart."

Inhalation of tobacco smoke often excites a bronchial catarrh. It is pointed out by some, that the mere breathing of an atmosphere laden with tobacco smoke from the smoking of others is almost as bad as direct inhalation. One often sees nicotine poisoning in people who have been in such an atmosphere without not having been smoking at all themselves. Tobacco is responsible for chronic gastritis, chronic rhinitis, in acute and chronic pharyngitis and laryngitis.

Many prominent authorities tell us the continued use of tobacco has a causative effect upon arterio sclerosis and cancers of the lip, mouth, pharynx and larynx.

President Grant, and Emperor Fredrich, the present German Emperor's father, both died of laryngeal cancers, and eminent physicians tell us both were excessive users of tobacco. No doubt this was the direct or indirect cause of those malignant growths.

The rock on which the treatment of these conditions most frequently depends, comes to grief, namely the unwillingness of the tobacco user to pay the price of his recovery in self restraint and self denial.

Every physician of experience well knows how such patients will use every argument to induce the physicians to believe that the latter is mistaken in his judgment, that smoking never hurt him, that he is in reality a moderate smoker, that his digestion is greatly improved by smoking, his teeth preserved, that it disinfects, etc.

Man is always ready to impair his physical constitution provided he can strengthen his intellectual sentiment thereby. Undoubtedly many tobacco users have lived to a great old age; that they might have been healthier and longer lived without the use of tobacco is quite probable. It is also a well known fact that many of the most useful old men of the world have been abstainers from tobacco, and it is also a fact that men, whose physical power and endurance was tremendous, were non-users of tobacco.

Constant, relates of Napoleon, that he once took a fancy to smoke for the purpose of trying a very fine Oriental pipe, which had been presented to him by a Persian ambassador. The lighted pipe was handed him. But scarcely had he drawn in a mouthful, than the smoke penetrated into his throat and he said in disgust, "Take that away from me!—my stomach turns." He renounced forever the pleasure of a habit which he said was only fit to amuse shuggards.

When asked if smokers were desirable members of his Polar expedition, Commander Robt. E. Peary replied. "As for taking a man with me who is dependent on the use of tobacco, I should as soon think of taking a man who had to have pie."

Every athlete knows that tobacco hurts his wind. Sharpshooters and riflemen know that their shooting is more accurate when they do not smoke. A great billiard player, who does not smoke, once assured me that he felt sure of winning when his opponent was a smoker.

A tennis player began to smoke at the age of 21 and found that men whom he had before beaten with ease, could now beat him.

The habit of chewing tobacco and using it as a snuff and as a dip is probably much less common than smoking, but it has all the bad feature of the latter and is certainly much more offensive. Indeed the bad effect of tobacco on the physical and mental development of children is so well known that the law of many states make its sale to children a misdemeanor, punishable by fines and imprisonment. Doctor Seaver, Director of the Physical Laboratory at Yale, tabulated the record of the students entering that university during nine years; all the young men were examined and measured. The smokers averaged 15 months older than the non-smokers. They were also shorter in stature. Nicotine interferes with growth, and its effect in that re-

gard is very measurable. At Yale, during the four year course, the non-users of tobacco, although taller when they entered gained 25 per cent. more in height and 26 7-10 per cent. more in girth of chest than do the habitual users. Doctor Hitchcock, of Amherst College, found even greater differences. The difference in the lung capacity is very striking in the two classes, and has been noted by all observers. It shows the effect of tobacco on the respiration, nicotine being a potent motor-depressant. As regards the effect of tobacco on the mental processes (it is more difficult to interpret the meaning of statistics. Out of the highest scholarship men at Yale, only 5 per cent use tobacco; while of the men who do not get appointments, 90 per cent. use it.

The symptoms of tobacco intoxication are, vertigo, somnolence, disturbed capacity for intellectual effort, abnormal moods, amblyopic symptoms, neuralgia, uncertainty of movement, a form of ataxia, tremor, muscular contractions, irregularity of heart action, or palpitation, emaciation, bradycardia, insomnia, amnesia, transitory aphasia, disturbance of judgment, etc. A true and characteristic psychosis, having origin in tobacco intoxication is fairly well established, according to Kjellberg, Schwartz, Frankl, Hochwart. It is observed that the true psychosis is invariably found in excessive and prolonged users of tobacco. With reference to the nervous complexes, due to the abuse of tobacco, there is noted, among very excessive smokers, a premature mental weakness, a kind of senility at an age around 50 when such organs are infrequent. There is no extreme dementia, but rather a certain reduction of the mental horizon, a distinct decrease of energy. Frankl, Hochwart cites the case of a physician, "aged 40, a great smoker of cigarettes, whose memory had become so defective as to lead to the commission of serious errors in his practice."

A physician, a healthy man of 31, whose first attempt at smoking began at 5 years of age and who finally became a very excessive smoker, noted suddenly, in his 28th year, that his memory for names became very deficient and he developed a tremor.

The internal revenue report shows that the use of tobacco is on the increase. During three months of 1912 in the United States, 3,800,000,000 cigarettes and 1,950,000,000 cigars were consumed. It is therefore seen that in spite of the public school instruction as to the physiologic action of tobacco and its dangers and in spite of the anti-tobacco leagues, the consumption of tobacco is enormously on the increase.

Professor Huxley said, "For forty years of my life, tobacco has been a deadly poison to

me." God does not fix longevity. Who does them? We all do. We have not the right to blame a cruel deity for untimely deaths, which are actually due to carelessness and bad habits, pernicious in character, and a refusal to exercise the common sense which is also an inspiration from the Almighty.

Let us keep up with scientific progress, let us as medical advisers, practice what we teach. The public looks to us to lead them by example and precept in all matters of health and prevention of disease. Let us shun this habit of using tobacco, which pollutes the body and shortens longevity. Lovers of perfect health and longevity, should beware of a custom and habit that has injured many others and will impair their bodies and shorten their span of life. Let us say with Charles Lamb:

Farewell to tobacco, the
Stinking 'st of the stinking kind,
Filth of the mouth and Fogs of the mind,
Africa, that brags of her foison,
Breeds no such prodigious poison,
Henbane, Night-shade,
Hemlock, Aconite—nay
All four cannot excel tobacco in a pernicious way.

DISCUSSION.

Leon L. Solomon: The doctor's paper is so scholarly and concerns a subject that affects so many of us, that it appears to me a serious word in discussion of it will not be amiss.

If I may be permitted to refer to a question asked by a previous speaker, I would say that when the essayist referred to tobacco as a central emetic, he meant in contradistinction to its action as a local emetic. If I am not correct in this, I will be glad to be set straight. Rarely does an individual smoke tobacco for the first time without experiencing more or less nausea, which occurs, as a rule, immediately, or shortly after he begins to smoke—shortly after he takes the cigar or pipe into his mouth. This is probably the result of reflex action, from the mouth to the gastric nerve endings, but the central emetic action of tobacco is apparent almost immediately after the nicotine is introduced into the blood; the vomiting center is at once affected, and the emesis is more pronounced and more protracted than that which follows the administration of apomorphia.

I think this is a most important subject and one deserving the intelligent consideration of the Jefferson County Medical Society. It is my belief that there would be very much less smoking if men began to smoke after they became men, and then experienced for the first time the nausea and vomiting that almost invariably accompanies the first cigar. The habit is usually formed during boyhood, and the individual soon forgets the

emesis, general relaxation and weakness that follows the first smoke. I recall my first smoke, in which I indulged, clandestinely, of course, when I was a lad of about fourteen years. That was before cigarettes were as generally used and as easily procured as they are to-day. I smoked off and on, though not to any great extent, until I attained the age of twenty-three or four, when I went to Germany and, cigars being so cheap there, I began to smoke cigars, as a student, and smoked continuously and excessively. I want to say right here that any man can quit smoking if he so desires, just as readily as any man can quit alcohol if he so desires. I threw my cigar into the water as the boat was leaving on the return trip. The reason I quit smoking was because I had in mind taking up the study of pediatrics, and I do not know of anything more objectionable to invalids and children than a tobacco-laden breath; in fact, a breath smelling markedly of tobacco is offensive to a great many adults—it is to me.

Just how much tobacco a given individual may smoke with impunity is impossible to determine. I know a lawyer of repute, a man about forty years of age and a bachelor (and they say that bachelors smoke more than married men) in whom three cigars a day will have a marked influence upon his ability to argue a case or prepare a brief; it also has a pronounced effect upon the rate and volume of his pulse: I think the essayist has most beautifully illustrated the effect of the use of tobacco upon men who do brain work in his citation of the statistics of various universities. Unquestionably the first influence of tobacco is the stimulation of the circulation, directly and indirectly. I speak now of the man accustomed to its use, upon whom tobacco has an influence wholly different to that of the man who is not accustomed to it. Undoubtedly this is what keeps many a man wedded to his pipe or cigar, despite the fact that he knows it is doing him harm. I believe we could do lasting good if, as individuals, we would make it plain to our patients that over-indulgence in tobacco unquestionably leads to vessel changes, and to the conditions that are dependent upon vessel changes.

Walker B. Gossett: We all know, of course, that immoderate smoking is injurious, just as immoderate eating and drinking is injurious. I remember the first cigar I smoked, when I was eight or nine years of age, and it nearly killed me. I did not begin to smoke again until I had graduated in medicine. We have very few pleasures in this life, and if we indulge in them moderately, no harm is done. In the morning after breakfast, I light my pipe, read my paper and get a great deal of enjoyment out of it, and I do not believe it does me any harm.

While I was practicing medicine in Missouri, we saw an old man, about ninety-eight years old, who had pneumonia. He had smoked and drunk

to excess all his life, and we felt sure he would die. The old doctor I was practicing with advised not letting him have anything to drink. However, at my suggestion, we finally decided to give him all he wanted to drink, putting a bottle of whiskey by his bedside every morning. He drank about a quart a day and got well. Six months later he was still well.

Of course, we should not indulge in anything to excess, but I do not see any harm in a moderate amount of smoking.

M. Casper: I enjoyed Dr. Frey's paper very much indeed.

A great deal depends upon what one calls moderate smoking. We never see a poker player who ever lost anything, and it is much the same way with smokers,—it is always the other fellow that smokes to excess. Some individuals can stand more smoking than others. I do not believe there is any doubt that a laboring man can stand more tobacco without any apparent or real injury to his system than can a clerical or professional man, who uses his brains. The latter are usually of more nervous temperament, and are more prone to the excessive use of tobacco. The late Dr. Cecil told me on several occasions that he believed tobacco to have been his downfall. From a series of experiments recently carried out in France, it has been pretty conclusively shown that arteriosclerosis is very frequently directly traceable to the use of tobacco.

I believe I could call the names of at least a dozen physicians who stay away from the meetings of the Jefferson County Medical Society for the sole reason that the fumes of tobacco are obnoxious to them. Personally, I have a decided idiosyncrasy against tobacco. As a young doctor, I persistently tried to become accustomed to tobacco, with more or less success, but it always left a disagreeable effect, and I finally gave it up. Whenever I come here to a meeting I absorb enough smoke to give me a headache for the next two days. It also tends to produce nervous symptoms, and as I have a decidedly neurotic temperament, I frequently stay away from the meetings on that account.

Dr. Frey has covered this subject thoroughly and scientifically, and I for one enjoyed it immensely.

David C. Morton: Some of the speakers have said that arteriosclerosis is, in many cases, directly traceable to the excessive use of tobacco. I think that is rather a broad statement. We are too prone to jump at conclusions of that sort. It might be interesting to know that arteriosclerosis is as frequent in non-users as in users of tobacco. Arteriosclerosis is essentially a disease that attacks individuals of a very definite anatomical type, and individuals of that type are prone to develop arteriosclerosis whether they be users of tobacco and alcohol or not. I mention this simply to put the brake on, as it were, on any

such sweeping statement as that the use of tobacco is an essential factor in the development of arteriosclerosis.

In regard to the use of tobacco in this room, I am one of those who smoke, and I am amazed to hear that there are as many as a dozen physicians in Louisville who do not come to the meetings because of an idiosyncrasy against tobacco. We spend approximately two hours here every week and if there is one physician who does not come because he cannot stand the smoke, then I for one say that we should seriously consider the matter and determine whether we, as individuals, will or will not smoke in this room.

Ellis S. Allen: Dr. Frey has gone into this subject very thoroughly and has given us an excellent paper. I do not believe there is a physician who smokes who does not realize that he is doing himself an injury; that he is intoxicating himself, and it is simply a question of who can stand more than another. There is no doubt that a man who uses tobacco and lives to be ninety-eight, would live to be older if he did not use tobacco.

In regard to Dr. Morton's remarks about arteriosclerosis, we know that this condition is the result of thickening of the arterial walls: that the muscles in the arterial walls, upon which the heart's action so materially depends, lose their effectiveness in the presence of arteriosclerosis, and that this is directly caused by intoxication or irritation of the muscle cells in the arterial walls. Wherever we have irritation or poisoning of any cell protoplasm, there is some resistance to the poison unless it is sufficient to kill the cell directly. Repeated poisoning of the protoplasm of the cells will result in thickening, and make the cell respond less sensitively to nerve impressions and impulses. As a result of this constant thickening, the avenues for carrying the blood are constricted; there is a tendency to passive congestion, with deposits of lime salts, which give us a hardened artery. When an artery becomes hardened it throws more work on the heart, and compensation takes place only as long as the arteries can carry sufficient nutrition to the heart. Arterial constriction results in thickening of the heart muscle; therefore, we have deterioration of the cardiac muscle also. So, with a muscle that is not helping the heart, and with a heart that is not receiving its normal blood supply, it is only a question of time until the heart does less and less work, and the patient becomes an invalid, or it causes his death. Take these little streeturchins, who begin to smoke early, they never become fully grown. Why? Because brain and bone can grow only when they receive a definite amount of nourishment. These individuals have early arterial changes, with the result that these structures receive an insufficient blood supply and cannot grow; the arteries cannot expand and feed them. It is a well known

fact that an athlete who has by training developed wonderful muscular ability, if he stops training and then tries to train again, he cannot attain his previous condition, simply because the arteries have not contracted but have remained stationary. They have lost their elasticity and the heart, not getting the proper amount of nutrition, cannot hypertrophy.

Personally I am very fond of smoking. My brother, who conducts the laboratory was absent for a week or two recently, and I did his work. I felt the need of something stimulating, so I opened a box of cigars and I believe I smoked twelve in one afternoon, and I was about half crazy for the next two days.

Milton Beard: I do not know that I am personally qualified to talk on this subject in view of the fact that I have never yet smoked a cigar or taken a chew of tobacco, but I have had many opportunities to observe people who did. I agree with Dr. Solomon and Dr. Casper that the use of tobacco is particularly harmful to the nervous system. As an organization and as individuals, the members of this Society should endeavor to teach the public and teach them right. The use of tobacco, and particularly in the form of the cigarette, which has come into such general use, is very harmful in the young. It is harmful for several reasons. These individuals begin to smoke while very young; they begin when the propensity to do anything conservatively is not very strong. Furthermore, cigarettes, perhaps, contain more of the alkaloid than does tobacco in any other form. It is a matter of fact that neither the Government school at Annapolis nor at West Point will receive as a pupil anyone who is addicted to the use of cigarettes. It is also a matter of fact, as we who are accustomed to treating drug habitues know, that there never was an individual addicted to cigarette smoking and the use of morphin, who was cured of the morphin habit, who did not also quit smoking cigarettes. It is utterly impossible to successfully treat the drug habit unless the tobacco habit is given up also, and these individuals must avoid the use of tobacco if they expect to remain cured of the drug habit.

The use of tobacco is a baneful habit, if habit it is. From a neurotic standpoint, it sometimes acts both as a cause and as an effect. An individual with some nervous trouble will smoke perhaps twenty or thirty cigarettes a day. The cigarette smoking predisposes to nervousness, and the nervousness in turn predisposes to the more excessive use of cigarettes. Thus it acts both as a cause and as an effect, and oftentimes does a great deal of harm.

W. F. Boggess: There is no question but what nicotine is a poison; there is also no question but that different individuals are affected differently by that poison, according to the individual's susceptibility. One man may smoke twenty or twen-

ty-five cigars a day and apparently not feel it, while in another one cigar may produce a distinctly toxic effect, just as one person may drink eight or ten cups of coffee a day and never feel any bad effects from it, while another may drink one cup of coffee and be kept awake all night. However, while the susceptibility of the individual plays an important part, there is no question but that every man who smokes constantly is getting a bad effect on the heart, the nervous system and the blood vessels. I used to smoke twelve to fifteen strong cigars a day, until I found that my heart was beating 120 and skipping every fourth or fifth beat. I have not smoked for ten years, but I have a crippled heart—a heart that was only functionally disturbed at first but later became organically affected. I have no high blood pressure, but I am sure that my life has been materially abbreviated by the amount of smoking I formerly indulged in.

Nicotine is a poison, and one that frequently leads to the use of other drugs to bolster it up when the individual fails to get the desired effect. When any man becomes dependent upon any artificial stimulation or sedative for normal action, he has reached the danger point; they are apt to go from one thing to another, and they suffer mentally, nervously and physically.

Dr. Allen is right when he says that any toxic agent will produce arterial changes. There is no question but that the use of tobacco will lead to arteriosclerosis and changes in the cardiac muscle. I do not agree with Dr. Morton that a man to have arteriosclerosis must be anatomically predisposed to that condition; it is almost invariably the result of a toxic condition—either auto-intoxication caused by faulty metabolism, or due to the constant inhibition of nicotine, alcohol, or any other toxic agent. The constant use of tobacco by a laboring man is not as positive in its effect as in a man of sedentary habits. A working-man with a good strong constitution and nervous system can stand considerably more nicotine, without any apparent effect, than can a man who does office work, or who leads a sedentary life.

No drunkard, morphin habitue or tobacco-user ever acknowledges that he indulges in more than a moderate amount. "Moderate" is too indefinite a term to use. Therefore, if we, as medical men, desire to indulge in these things, we should be perfectly honest about it and say that, while we know they are doing us harm, we are willing to take the consequences for the pleasure they give us. Nevertheless, the fact remains that nicotine is a poison and, when constantly put into the system, it will produce structural changes and be a potent factor in the production of premature senility, if you choose, or in producing changes in the arteries and blood vessels that will tend to shorten the individual's life.

E. S. Frey, (Closing): I simply wish to thank the gentlemen for their generous discussion of my paper.

HISTORY OF TYPHOID VACCINATION.

By PETER S. GANZ, Louisville.

The employment of vaccination for the purpose of producing active immunity against typhoid fever took its origin in the researches of Chantemesse and Widal, in France (1888), Brieger, Wasserman and Kitasato, in Germany (1892) and Bruschettini, in Italy (1892) who proved it possible to vaccinate an animal against fatal doses of typhoid bacilli by previously injecting doses of cultures of the same microbe sterilized by heat, or the soluble products (endotoxins) secured by autolysis from the bodies of the bacteria. In 1896 Pfeiffer and Kolle, in Germany, and Wright, in England, took up the question of typhoid prophylaxis anew. Wright introduced antityphoid vaccination in the British Army, in 1898, and his experience soon became so extensive that he was considered the chief authority upon the subject—in fact, the general use of typhoid vaccination at the present day is in great part the result of his efforts.

The more recent work of Leishman, in England; Pfeiffer and Kolle, in Germany; Vincent, in France, and Russell, in America, has placed the procedure on a firm basis as an effective prophylactic measure.

DOSAGE FOR IMMUNIZATION.

The dosage of typho-bacterin almost uniformly employed for immunizing consists of 500 million killed bacteria for the first injection and 1000 million for each of the two subsequent injections, three injections usually constituting the prophylactic treatment. Russell states that this dose is designated for a healthy man weighing 150 pounds, and is to be diminished for women and children in proportion to their weight.

Reaction of Bacterin. The symptoms following vaccination are usually confined to a slight headache and malaise, and a local reaction consisting of a red and tender area, about the size of a hand and sometimes tenderness in the axillary muscles. In some few individuals there is a more severe general reaction consisting of headache, backache, nausea, vomiting, herpes labialis, and rarely albuminuria and some loss of body weight.

Hatchel and Stoner in analyzing records of 1306 cases found that redness and local tenderness were present in all cases. Malaise followed the inoculation in 775, headache in 635, muscular pain in 106, nausea and vomiting in 60, chills in 57, and rise in tempera-

ture in 884 cases. In 1160, or 56.7 per cent., constitutional symptoms were absent. The temperature following injections ranged from normal to 101 degrees F. in 785, or 38.4 per cent.; 101 degrees F. in 82, or 4 per cent, and in 17, or 0.8 per cent., it exceeded 103 degrees F. In those exhibiting systemic reactions analysis of 874 records showed that the reaction occurred after the first injection in 132 cases; after the second 255; after the third injection 382. After the first and second injections extreme reaction occurred in 59, the second and third in 14, the first and third in 10, and after all three in 33. In 246 of the 884 having a systemic reaction this lasted from 1 to 6 hours in 14 cases; it persisted from 6 to 12 hours in 96 cases it disappeared in from 12 to 24 hours in 89, from 1 to 2 days in 43 cases, from 2 to 3 days in 5 cases, from 3 to 4 days in 6 instances, in 5 days in one; and it lasted over 10 days in two persons.

Duration of Immunity. Russell states that we do not yet know definitely the duration of immunity following antityphoid vaccination. It apparently begins to diminish at about the same time as immunity to vaccination and it is possible that it may last nearly, if not quite as long. "We know also that the immunity is not absolute, for in the year 1911, among 80,000 persons vaccinated in the army there were 12 cases of typhoid with one death," due to intestinal hemorrhage, and in 1910 there occurred 6 cases among the vaccinated, with no fatalities. The fact that the immunity is not absolute is no objection to its use, but is rather an argument for its repetition at intervals to be determined in the future as the lessons of experience become clear, just as we now do in the case of smallpox. We should revaccinate against typhoid fever at the beginning after the third year.

Results of Vaccination. The Surgeon-General of the United States Navy reports that there have been more than 62,000 inoculations with typhoid prophylactic in the United States Navy since January, 1912. Of this number a small fraction of 1 per cent had reaction requiring excuse from duty, and only a small percentage had reactions causing any inconvenience. There were no serious results.

REMARKABLE RESULTS FOLLOWING USE OF VACCINE, IN BRIEF.

82,000 United States Soldiers immunized up to July 1, 1912. The typhoid rate dropped from 3.03 per thousand in 1909 to 0.3 per thousand in 1912. A reduction of 90 per cent.

61,622 British Soldiers immunized in India during 1911. With a death rate of 0.17 per cent.

24,795 Japanese Soldiers immunized in

1909. Death rate 1 case typhoid per thousand.

30,000 persons immunized in Memphis, Tennessee, during the recent typhoid epidemic. About 1 per cent. death rate.

2,044 persons immunized in Baltimore during 1911-12. Not a single case of typhoid fever occurred among these persons.

1,381 nurses and hospital attendants in Massachusetts hospitals were immunized. Only 2 cases of typhoid fever developed.

Typhoid Bacterin in Treatment. In the treatment of typhoid fever with typho-bacterin we are dealing with a problem entirely different from that connected with immunization. Here we have a person already infected. Typhoid bacillus colonies are localized in the intestinal tissues and from these colonies the bacilli find their way into the blood. Agglutinins, opsonins, and bacteriolysins are always present during the course of the disease. Yet that good results have been recurring in numerous cases by the injection of killed typhoid bacilli is now beyond question.

Simple discusses the subject as follows: "Reaction. When dead typhoid bacilli (or vaccines) are injected into the tissues, it is the product of the metabolism of the bacteria which act; and these products are the results of the action of the tissues at the seat of injection. Here we get a localized toxic effect on the tissues, and a consequent local production of bacteriotropic substances, which find their way into the blood. On the other hand, when—as during an attack of typhoid fever—the bacteria are broken up in the blood stream, the liberated toxin is diluted by the whole volume of blood, and served out of the tissues in such a diluted form as only tardily to give rise to an immunizing response. In such a condition we get the full toxic effect, but only a slow immunizing effect or cure, and although a cure does eventually come about.

Russell in his explanation of how typhoid vaccine is beneficial in typhoid fever, adheres to the views put forward by Wright. He holds that the subcutaneous tissue produces antibodies freely, and that, as it is not ordinarily involved in typhoid fever, subcutaneous injections of vaccine in this disease do good by throwing this unused centre into action. Wassermann and Citron as the result of their experiments on rabbits with dead typhoid bacilli injected subcutaneously have also arrived at this conclusion.

Dosage and Administration. The dosage of typho-bacterin used in the treatment of this fever is different from that employed in immunization. As a general rule, a smaller initial dose is employed (from 50 million upward) and the subsequent doses is given at

shorter intervals from 3 to 5 or 7 days, are governed by the effect of the first dose.

Meakin and Foster seem to have used the largest doses. In 41 cases treated their initial dose was 1 billion. Eight days later a second dose of 1,500 million was given and at the end of the second period of 8 days, if it was found necessary, a third dose of 2 billion was given. In many of the cases the fever terminated so rapidly as almost to be by crisis.

Callison reports a collection of 323 cases of typhoid fever treated with vaccine with 17 deaths and 20 relapses.

My personal experience in the treatment of typhoid fever was as follows:

I treated ten (10) cases in all, eight cases treated with bacterin with beautiful results. Every case reaction set in after the first injection of 125 million bacterin, temperature dropped gradually in 36 hours from one to two degrees. In from three to five days another 250 million germs were used, the temperature gradually became normal and all remained so, the typhoid facia disappeared, the delirium cleared up, tongue, which was heavily coated, cleansed, all patients became violently hungry and were on the road to recovery. In all these cases the bowels were emptied by enema every other day, when temperature remained normal for eight days, feeding of soft food was begun and as conditions allowed was increased. No relapses occurred in either case, one case was complicated with lobar pneumonia which died in the second week, no benefit from the bacterin. One case in which bacterin was used had intestinal hemorrhage, no effect from bacterin no reaction on account lesion.

I do not believe that bacterin should be used during third week in stage of intestinal ulceration. The bacterin should be used as early as possible for the best results from serum. In no case have I had unpleasant symptoms to follow the use of bacterin.

I wish to mention four cases complicated with bronchitis. Recovery.

The injections were made in the skin on deltoid muscles.

In all cases Mulford's bacterin were used, the package contains 4 bottles marked A, B, C, and D, each bottle contains 125, 250, 500 and 1000 million killed bacterin. It is my opinion that the vaccine treatment of enteric fever is sound and practical and will grow in favor as time will go on.

DISCUSSION.

W. B. Gossett: If I understood the essayist correctly, he said that he had seen ten cases of typhoid last year and ten this year. While I do not mean to question his diagnosis, I think it is very unusual to see so many cases in this city

since the completion of the filter plant. Personally, I have not seen a case of typhoid fever in three years, and I have heard doctor friends of mine say that they had seen very little typhoid fever in the past two or three years. I have, however, seen a number of cases which a good many years ago might have been diagnosed as typhoid, starting in with fever and a tongue very similar to that in typhoid, but after a good purge, followed by aspirin and phenacetin, the symptoms would clear up in from three to seven days.

Virgil E. Simpson: I have enjoyed the essayist's paper very much indeed. It is a very practical question that confronts us. In the December, 1911, number of "Progressive Medicine," editorial comment was made to the effect that, at that writing, the typhoid vaccine did not appear to offer very much as an adjunct to the therapeutics of typhoid fever. The same publication for December, 1913,—two years later—states editorially, that there is no vaccine, the status of which is more definitely fixed, more satisfactorily settled, than that of typhoid vaccine. This comparison, I think, embraces, in a terse form, the history of the use of typhoid vaccine and the results obtained, as a prophylactic as well as a therapeutic measure.

As has been clearly indicated by the essayist in the statistics quoted, the use of typhoid vaccine as a prophylactic measure has long since passed the stage of experimentation. In army and navy circles especially, the administration of typhoid vaccine for the purpose of preventing the development of typhoid fever has been attended by such unquestionably beneficial results, that we need to no longer quibble over minor details. It has only been comparatively recently, however, that much use of the vaccine has been made in the treatment of typhoid fever. It should be borne in mind that the typhoid vaccine does not act as an anti-toxin, which, immediately upon its injection into the system begins to at once neutralize the toxins produced by the bacillus that is responsible for the infection. During the first five days after the introduction of typhoid vaccine into a normal individual, as a prophylactic measure, there is no appreciable increase in the opsonins, agglutinins, or bacterial alexins of that individual; but after the first five days have elapsed, and during the succeeding twenty-five days, there is a steady increase in the blood of the contents I have enumerated. In an individual who has typhoid fever, the process of the establishment of immunity has already begun; therefore, the reaction following the administration of typhoid vaccine in such an individual will be manifested earlier than in a normal person consequently, the intervals between the administrations of vaccine may be shorter than would be indicated for the purpose of establishing immunity in a perfectly healthy individual. It has been

shown by Leishman and his associates that, quite unlike our experience with most forms of vaccines, the use of stock typhoid vaccine, either as a prophylactic or a therapeutic measure, is attended by almost, if not quite as good results as are obtained from an autogenous vaccine. As stated, this differs materially from our experience with other forms of vaccine therapy. For ordinary infections I prefer to use an autogenous vaccine, but it seems that an attenuated vaccine, singly, gives as good results as a mixed vaccine of a highly virulent type.

Some interesting work has been done by Besredka in conjunction with Metchnikoff, in working out a new process of obtaining typhoid vaccine; namely, to sensitize the bacteria before they are standardized or used as immunizing agents. Ordinarily, in using a vaccine, we inject a quantity into the system, containing a number of dead germs, and depend upon the well known vital reactive power of the body to produce bacteriolysis; in other words, we expect a reaction to ensue, in consequence of the presence of the germs, which will produce an amboceptor, which in turn unites the germs with the complement which always exists in the blood, resulting in the destruction of the organism. Besredka's theory is based on this hypothesis; that if we are able to sensitize the bacteria before their introduction, by mixing the germs with a serum obtained from some animal that has been immunized against that particular organism, we have gained a step in shortening the process of the disintegration of the bacteria. In other words, diagrammatically (illustrating on blackboard), we understand that the bacteria constituting what is commonly recognized as the antigen must be united by the amboceptor with the complement in the blood before the destruction of the micro-organism can take place. This complement in the blood exists normally. The bacteria is the insulting agent, and when introduced into the system in the form of vaccine, before the complement can combine with the bacteria and bacteriolysis occur, there must have been formed the amboceptor, which unites the bacteria with the complement and enables bacteriolysis to take place.

In the use of so-called sensitized vaccines, we have a micro-organism that has been added to a serum obtained from one of the lower animals that has been immunized against that organism. The process in brief is as follows:

First a quantity of blood serum is obtained from an immunized animal, a horse or a goat, into which dead typhoid germs have been introduced at intervals, in increasing doses, until what would originally have been a fatal dose can be introduced without causing a reaction. A culture of typhoid bacteria is grown on agar for twenty-four hours, washed in saline solution, filtered and added to the serum from the immunized animal, and allowed to stand at laboratory tempera-

ture for twenty-four hours. Then standardization, according to the method of Wright, is carried out. Thus, upon introducing the bacteria already combined with the amboceptor into the system, the process of bacteriolysis begins at once. There is no reaction following the introduction of the sensitized vaccine.

Another phase of the subject of vaccine therapy that has been quite interesting to me, and one upon which I was in hopes that the essayist would touch, is in reference to typhoid carriers. We have learned a great deal about the propagation of typhoid fever that we did not know when I was a student. It has been estimated by careful observers that four or five per cent. of all cases of typhoid fever end in being typhoid carriers. It has been also estimated that perhaps as large a proportion as twenty per cent. of all cases of typhoid fever that develop are the result of infection conveyed by these typhoid carriers. It has been stated by authorities whose right to make the statement cannot be questioned that probably one out of every five hundred individuals, taking them as they come, whether they have had typhoid fever or not, are typhoid carriers. Clinically we recognize two types of carriers, the contact carrier and the secondary carrier. The first is an individual who, while having never had an attack of typhoid fever so far as the clinical symptoms go, yet harbors in his system typhoid fever germs. This can be explained on either of two hypotheses; that the germs infecting an individual, such as, for instance, a nurse or a doctor who has been attending a typhoid patient, are not sufficiently virulent to produce symptoms which would lead to a diagnosis of typhoid fever; or, that the individual's resisting power, while sufficient to prevent the development of the disease, is not sufficient to entirely destroy the germs that infest his system, and these germs find their way into the gallbladder, kidneys, periosteum of the bones, etc., and may remain in situ for a long time. These are called contact carriers. Possibly some of them are cases in which typhoid fever really existed, but was not recognized. I am of the opinion that many cases of summer diarrhoeas, milk infections, and so on, in children, that last anywhere from ten days to two weeks, are really typhoid fever, and these children become typhoid carriers of the other type, comprising those who have had typhoid fever and recovered, but following recovery still harbors typhoid germs, and eliminates them in the urine or feces.

Medical treatment of typhoid carriers has been demonstrated to be almost worthless, except when given early—that is, while the patient is still in the convalescent stage; but after the patient has recovered, and the condition has become essentially a chronic one, but little can be accomplished by drug therapy, except possibly by the use of nrotropin in cases where the kidney is at fault.

These individuals, especially where they happen to be engaged in occupations where they must come in contact with food products, constitute a menace to the public, and it is here, I take it, that the typhoid vaccine will accomplish almost as much good as it has been demonstrated to have accomplished in the prevention of typhoid fever.

Another thing I would like to impress upon the members is the value of early diagnosis of typhoid fever in connection with vaccine therapy. It is an unquestionable fact that the earlier the vaccine is used, the better the results will be, and this is true with respect to any treatment, the object of which is to head off the condition and remove the cause. Since in the normal individual into whom we inject the vaccine, it requires at least five days to bring about any appreciable increase in the agglutinins, we can readily understand that to wait until a positive Widal reaction can be obtained, means a loss of valuable time. Therefore, I would insist that it is far wiser to make a blood culture in these cases rather than to wait until the time when a Widal reaction is positive.

Ellis Duncan: I have enjoyed this paper very much indeed. As a medical officer in connection with the organized militia, I had occasion to make requisition on Major Russell, to whom Dr. Ganz referred, for a quantity of typhoid vaccine to be used as a prophylactic among the men who are members of the regiment. I administered a prophylactic dose to between 125 and 150 men and while in every instance there was a distinct and appreciable reaction, in no case was it sufficiently severe to be more than barely noticed. Dr. Cutbert Thompson reported to me that one of the men had come to him suffering from intestinal hemorrhages, and he suggested the possibility that the prophylactic dose of typhoid vaccine had something to do with it. I think this is very doubtful. I do not see how intestinal hemorrhages could possibly result from the administration of dead bacteria; they are supposed to be caused usually by the activity of live bacteria in the intestinal mucous membrane.

I gave the vaccine in accordance with the advice of Major Russell; that is, five hundred million (1-2 C. C.) at the first injection, one thousand millions (1 C. C.) after an interval of ten days, and another thousand millions (1 C. C.) after a second interval of ten days, 2—1-2 C. C. being administered in that time.

Major Russell advises the use of the vaccine every three years. I do not know whether Dr. Ganz mentioned that or not. In the U. S. Army the men are required to be re-vaccinated every three years, and every man who re-enlists must take it again. The cases reported by Dr. Ganz certainly indicate the beneficial results to be derived from its use.

Leon L. Solomon: The subject of this paper might well be divided into discussions of the use

of typhoid vaccine as a prophylactic measure and the use of typhoid vaccine as a therapeutic measure. It appears to me that there is little room for argument as to the efficacy of typhoid vaccine as a prophylactic, which seems to have been conclusively demonstrated by its use in the armies and navies of the world—England, Germany, Russia, France, Italy, Japan, as well as our own standing army of some eighty-two thousand troops. To my mind there is no more brilliant chapter in the entire history of medicine than the recent chapter on the prevention of typhoid fever by the use of bacterins. Sustaining evidence of the success of this measure, that will last for years to come, was given recently on the Mexican frontier. The results achieved by our army officers everywhere, particularly as concerns typhoid fever, have been brilliant, as witness the results obtained in Panama from the hygienic measures adopted there in order that the canal might be built.

As has been so plainly brought out by Dr. Simpson in his discussion, the question of the employment of typhoid vaccine as a therapeutic measure is entirely different. I agree with Dr. Simpson that it is a mistake to wait until we have proved our diagnosis of typhoid fever by a Widal reaction before administering the vaccine. In some cases in which typhoid is later proven to exist, the urine will not show the presence of the bacteria. Therefore, it may be a loss of valuable time to defer the administration of a therapeutic dose of vaccine in such cases. Indeed, I am inclined to the belief that no serious harm would be done by administering a therapeutic dose of vaccine when we have done no more than establish a reasonable clinical diagnosis of typhoid fever. I am aware that this would not be, strictly speaking, scientific management, to proceed with the therapy before we have fully established our diagnosis, but the bacteriology of typhoid fever upon blood examination is not always uniform, and may lead us astray. Digressing for a moment, I wish to agree with the gentleman who said that it is unusual to see so many cases of typhoid fever in this city at the present time. I have seen very few cases of typhoid since the completion of the new filter plant—indeed, but few cases were reported to the health officer last year, and it may be that some of us are derelict in our duty in having failed to report cases that came under our observation. I saw three cases of typhoid fever last summer, in which the diagnosis was later confirmed. In one of these cases, in the early stages, bacteriological examination revealed nothing. All of these cases were treated by the ordinary dietetic and hygienic measures, clearing out the intestinal tract early, and the administration of intestinal antiseptics later. In two of the three, lysis occurred at about the thirteenth day, and in the other at about the fifteenth or sixteenth day. I say "about" because it is al-

ways difficult to determine just when the disease began.

I wish to say again, if you will pardon the unscientific statement, that I believe it is a good plan to administer a therapeutic dose of vaccine upon making a reasonable clinical diagnosis of typhoid fever, even before it can be confirmed by a Widal reaction or a blood test. I believe, furthermore, in repeating the dose at short intervals, relying upon the clinical manifestations in conjunction with laboratory examinations for guidance as to the interval between doses.

Wm. A. Jenkins: Vaccine therapy may be said to be the medical "Land of Promise." However, to be conservative, we must still hold the whole question of vaccine therapy sub-judice. We cannot say anything against it, and I admire the gentlemen who have the hardihood to come forward with their correlated, carefully recorded cases, and stand up for their belief. We all feel that, at some time or other in the distant future, there will come a glad time when many, if not all, of the acute infectious diseases may be met and conquered early in their career along these promising lines. There is only one possibility of making an error along this new therapeutic line, and that is to allow our enthusiasm to outrun our judgment. When it has been thoroughly tried out by reputable clinicians, and practitioners of accredited standing all over the country, and there has been accumulated a mass of evidence sufficient to convince the average practitioner that it has come to stay, then it will be taken hold of generally.

Just one word in regard to sensitized vaccine. This idea is not really new; it has been worked on in laboratories for a long time, and one or two of our enterprising pharmaceutical houses are now putting out sensitized vaccines.

I wish to mention one point in connection with the preparation of sensitized vaccines (which, however, may not be of much interest to the general practitioners, because we do not prepare our own vaccines). When an ordinary bacterial vaccine is placed in the sensitized serum, obtained from an animal that has been immunized to that specific disease, it should be allowed to remain for only a short time. If allowed to remain longer than that they are apt to take up something else that may prevent the bacteria from uniting with the natural complement, thus destroying the efficacy of the vaccine. After remaining in the immune serum the required length of time, the bacteria are filtered, washed and prepared for use.

R. Hays Davis: I cannot agree with the gentleman who believes in promiscuously injecting typhoid vaccine in cases in which the diagnosis of typhoid fever has not been established. So many conditions resemble typhoid fever that are later found not to be typhoid, and if we inject every patient that has a coated tongue, with high temperature, with typhoid vaccine, we will make

many mistakes and unquestionably do harm. I cannot conceive of a vaccine being used in diseases other than that for which it is intended, without producing harmful results. Certainly, it will not do the patient any good to inject typhoid vaccine for a condition which may be a septicaemia, or military tuberculosis, or some other condition that resembles typhoid fever. There are scientific methods by means of which most cases of typhoid fever can be diagnosed, even in the early stages. We know that the blood culture is positive in ninety per cent. of cases if made early, in the first few days of the disease; the longer the disease runs, the less likely is the blood culture to be positive. After the first few days, we have the leucocyte count, which we know is low in typhoid and high in septicaemia and other conditions. It is also low in miliary tuberculosis, but here we have other differential signs. After that we have the Widal reaction, which is positive in the large majority of cases of typhoid. In addition to these measures, we have in typhoid fever, the presence of rose spots, which practically never occur in other conditions. We also have a slow dirotic pulse which is highly characteristic of typhoid. Furthermore, we have bronchitis occurring at about the eighth day in typhoid, when it usually occurs early in other conditions. In addition to these, there are various other things to be taken into consideration before resorting to the injection of typhoid vaccine. The trend of evidence seems to be that the typhoid vaccine, as a curative measure, may be of some value, but its use in this way is still more or less in the experimental stage, and has not attained the status that its employment as a prophylactic has.

Charles Farmer: I would like to ask the essayist for what period of time immunity is established in an individual after the use of typhoid vaccine as a prophylactic measure. Last summer I treated an attack of typhoid fever in a young man who had formerly been in the U. S. Navy, and had been vaccinated against the disease fourteen months previously.

Leon L. Solomon: One of the speakers has seen fit to discourage and class as dangerous the administration of a single dose of typhoid vaccine as a therapeutic measure, even before the diagnosis of typhoid fever had been fully established, which I advocated in my discussion, at the same time admitting that it was somewhat unscientific. This gentleman seems to have overlooked the fact that we have before us reports which show that millions of individuals have been given a prophylactic dose of the vaccine without doing them any harm.

P. S. Ganz (Closing): I wish to thank the gentlemen for their generous discussion of the paper. The question often asked is, "Does the vaccine ever do any harm?" It is claimed by the manufacturers that never, in a single case, has the use

of vaccine resulted in harm. They state, however, that its use is contra-indicated in the presence of tuberculosis, chronic or acute arthritis, albuminuria, etc. I have read the records of all the different manufacturers and have written to them, and they claim that they have never known a case in which death resulted from the use of bacterins, although in some instances a dose of three millions of germs has been given at one injection. Therefore, in cases where there is a reasonable suspicion of typhoid fever, I do not believe the administration of a single therapeutic dose of the typhoid vaccine in the average individual, as advocated by Dr. Solomon, would do any material harm.

SURGICAL TREATMENT OF CERTAIN ACUTE AND CHRONIC DISEASES OF THE PALPEBRAL AND OCULAR CONJUNCTIVA.

By M. F. COOMES, Louisville.

First: In specific and nonspecific purulent inflammations of the conjunctiva where the chemosis is extreme, and especially where the sub-conjunctival tissues become so infiltrated that the lids can neither be closed nor opened, and that cleansing cannot be properly accomplished, and that applications cannot be applied as they should be applied, then the conjunctiva should be cocaineized and freely snipped with the scissors so as to permit free drainage from the infiltrated tissues; one-fourth of one per cent. solution of cocaine is quite strong enough for this purpose; in fact, the snipping of the conjunctiva can be done without any anaesthetic whatever because the distension of the tissues renders them anaesthetic to a considerable degree.

If the snipping does not give the proper relief, canthotomy should be performed. The cut in this instance should be made horizontally, and not upwards and outwards, at forty-five degrees, because in this instance the only thing needed is temporary relief of tension.

If the subject is a young infant, which is frequently the case, it will not be necessary to stitch the conjunctiva and skin together—a procedure which might be necessary in adults, because of the greater likelihood of the parts not adjusting themselves properly.

TRACHOMA.

This disease, as we all know, is peculiar to itself in as much as it has the peculiar deposit known as the trachomatous body or bodies, chiefly beneath the conjunctiva, that is in the sub tissues, and sometimes in the conjunctiva itself. Medicines will not cure this disease, although they may palliate. All cases of trachoma are curable by proper surgical inter-

ference. The milder the case, the more amenable to surgical treatment.

The surgical treatment consists of two procedures, the first of which is the expression by means of the use of the Knapp roller, or some other such device. The expression should be thorough. If the case is a mild one, and of short duration, the expression will be sufficient; but if there is spasm of the orbicularis palpebrarum muscle, there should be a free canthoplasty. Great care should be taken in making this cut, with the scissors extended along the line of continuation with the free border of the lower lid, which is upwards and outwards at the angle of about forty-five degrees.

The object of this cut is to evade the tendinous portion of the orbicularis muscle. By making the cut through the muscular fibres, you not only relieve spasm, but in the process of reparation, new tissue is built in between the ends of the muscular fibres, thereby increasing the length of the muscle, and rendering pathological spasm impossible; whereas, if the cut is made through the ligamentous portion of the muscle, as soon as union occurs between the divided ends of the ligaments, you are very likely to have a return of the spasm, and the result of your operation will only be evanescent in its effect, in as much as the spasm will return as soon as union is completed.

The canthoplasty cut is best made with a good strong pair of blunt pointed scissors—a small Mayo scissors with blunt point is admirably adapted to this work. Great care should be taken in stitching the conjunctiva and skin together. The angular stitch should always be placed first by introducing it into the conjunctiva opposite the angle in the skin wound, letting the needle pass out through the sub tissues, and up through the integument one-fourth of an inch external to the edge of the wound. The adjusting and tying of this stitch arrests hemorrhage and brings the other two sides of the wound in apposition, so that the introduction of the two remaining stitches is rendered easy.

The stitches should remain three days, and in their removal great care should be taken not to leave any portion of the thread, as it results in troublesome lid abscesses. Silk is the best ligature material—linen thread will suffice.

In many of these cases of trachoma we have panus in varying degrees, and unless the spasm of the orbicularis muscle is kept under control sufficiently to prevent friction, other than normal, the panus will be slow to clear up, and in many of the advanced cases, that is where there is great vascularity of the cornea, ulcerations and other complications will arise, and the results of these complica-

tions will often produce serious defects in vision by leaving scars and opacities in the cornea.

PAPILLIARY HYPERTROPHY, OR SO-CALLED GRANULAR LIDS.

The great pathological distinction between trachoma and papillary hypertrophy is the fact that in the latter form of disease there is no foreign structure or substance connected with it—the thickening of the lid is due to excessive cell proliferation or growth building up the individual papillae, thus making them broader and longer, until finally the lid presents the peculiar granulated surface, which is not a true granulation, such as we have in the reparation of tissue, but is simply an increase in the size and the length of the papillae. Each of these little papillary bodies must have its nerve and blood supply. The larger the papillae, the greater the blood supply, and of course, any unusual irritation applied to the eye, or to these individual papillae, produces an increased flow in the blood stream which finally amounts to a state of chronic congestion—hence, any unusual action of the orbicularis muscle will produce an excessive amount of irritation over and above that which exists in the lids where there is no spasm. With this understanding it is perfectly plain that there are two things to do, from a surgical standpoint; the first is to get rid of the spasm of the muscle by canthoplasty, as is done in cases of trachoma. The next thing to be done is to establish a new condition of affairs in the hypertrophied papillae, and there is nothing to equal the crushing process with the Knapp roller, or some other similar device.

The object of this operation is to break up adhesions between the individual papillae that may have occurred, and to establish a new set of blood vessels in the hypertrophic mass, and also to bring about an atrophic condition in the papillae—in other words to reduce them to their normal.

This line of treatment is the most satisfactory of all forms of treatment applied to such cases, because of the speediness and certainty as concerns results. With proper management, in from ten days to two weeks the trauma, resulting from such operations as canthoplasty and the use of the Knapp roller, has subsided.

There can be no comparison between the results obtained by proper surgical management of trachoma and granular lids and that of any line of medical treatment that may be instituted. As far as pain is concerned, the canthoplasty and expression with the Knapp roller is not worse than the application of stick copper, or the strong solutions of sulphate of copper—in fact, I know of nothing

more painful than the application of copper sulphate solution in the eyes; it is prolonged and harassing.

Another great objection to the use of copper, silver, alum, and other astringents and irritants is that it requires a great length of time to accomplish any results, and even then the eye lids are deformed, and frequently much of the cornea is left opaque. Copper should never be used.

The four local applications upon which I mostly rely are, first of all, boracic acid with normal saline as a general wash and cleanser; secondly a solution of eserine containing one grain to the ounce of water. This application acts as a myotic—closing the pupil and keeping out the light, which is so intolerable to many patients. Further, eserine is a great stimulant to the blood vessels, and has a most wonderful reparative effect upon the cornea in many of its ulcerated conditions, especially where there are a number of small ulcers scattered over its surface. There can be no harm from its use in these cases. It can be applied night and morning for an indefinite period of time without any evil results occurring.

The next local application of great value is pyoktonin (blue); watery solution of five or ten grains to the ounce may be applied to the conjunctiva sac with impunity, and practically without pain. It is particularly valuable in those cases where there is a sluggish, mucopurulent discharge. This application once each day for three or four days usually clears up this condition, which otherwise is difficult to get rid of. Furthermore, there is no danger of any staining of the cornea, whereas some of the silver salts are not to be reckoned in these cases, and particularly the nitrate of silver.

Lastly, but not least, one of the most valuable local applications is a saturated solution of the muriate of ammonia. This is preferably dropped upon the everted lid once each day. For the instant, it is very painful, but the pain is so evanescent that patients tolerate its application with impunity; no harm whatever can result from its use.

In conclusion, I wish to say that I am firmly of the opinion that if the surgical treatment of trachoma is followed up strictly in all cases of this disease, we would soon eradicate it from the State, for the reason that there would be very much less danger of contagion by the transmission of the disease from one person to another, because of the very short duration of the disease under surgical management; in other words, I believe that the surgical treatment should be compulsory in all cases as soon as the diagnosis has been made, because such persons are a menace to the community, as well as to themselves.

DISCUSSION.

S. G. Dabney: I have listened to Dr. Coomes' paper with a great deal of interest, especially since he is not in accord with the views generally held. We all like to see a man who has the courage of his convictions, and whose experience entitles him to consideration. Most of what Dr. Coomes has said, however, is not to be found in either the older books or the new ones, and is hardly in accord with the experience of most of us. Perhaps we are all prone to practice too little some of the things he referred to.

I think Dr. Coomes over-estimated the value of canthotomy. Perhaps most of us do it less than we should, but I hardly believe it will accomplish as much as the essayist seems to think. In the first place, I have never seen occasion for it in a baby. A baby's tissues are soft and flabby, and are not of the same firmness as an adult's. In purulent ophthalmia in adults it is an admirable procedure. Some years ago I saw in consultation a doctor who had contracted a purulent ophthalmia of one eye from treating a gonorrhoeal case, and suggested canthotomy which helped him very much indeed.

I wish Dr. Coomes had touched upon removal of the tarsal cartilage in cases of old chronic trachoma. This is an operation that has been very much discussed lately.

I cannot agree with the essayist in regard to copper. I have tried all sorts of medical agents, and I believe practically every oculist will agree with me that, if there is one remedial agent in trachoma, it is copper. However, I think it is important to impress upon the laity that surgery is more effective and more permanent in its results than any medical treatment of trachoma.

I have never used quinin-urea about the eye.

One condition which we never see mentioned in the books as indicating operation, and which has often given me a great deal of trouble, is that condition of the margins of the eye-lids which we used to call a strumous condition, the lids being thickened and red, with considerable inflammation about the hair follicles and adjacent tissues. I have often wondered if firm expression would not do good in such cases. I have never tried it, having always employed medical treatment, but I would be glad to hear Dr. Coomes relate his experience with such conditions.

I cannot agree with the essayist in regard to eserine. In many people it produces ciliary spasm, and I cannot help but think that in cases of trachoma with corneal ulcer, it would be very apt to produce iritis. Certainly we very often see congestion of the iris, with a narrowed pupil in corneal ulcer, and for my part I would hesitate to give such a patient a solution of eserine and tell him to go home and use it.

It is strange how our experiences with the same drug differ. Dr. Coomes finds that atropin fails to give the patient comfort, while so many

of us have noted the opposite effect, although it undoubtedly dilates the pupil and lets in more light. There are three things we hold to in the medical treatment of trachoma—*atropin*, hot applications and *bluestone*—both before and often after operative treatment.

Gaylord C. Hall: I can subscribe to a good many things that the doctor has mentioned in his paper, particularly the use of *eserin*. Before I used it, I was of the same opinion as Dr. Dabney, but upon trying it in certain cases of ulcer of the cornea, I found that the patient was very promptly relieved; whereas, previously the application of *atrophin* had not afforded relief.

In regard to canthotomy, I think a distinction should be made in its use in the inflammatory conditions in the eye. Where we have an acute inflammatory condition with chemosis and much swelling as in purulent ophthalmia we take a scissors insert at outer canthus and cut outward as far as possible. This temporarily relieves the pressure. We, however, do no plastic work. It has been also recommended that radiating incisions in the bulbar conjunctiva may be necessary in cases of excessive chemosis although I have never found this procedure necessary.

The operation I do in trachoma is not a canthotomy in the sense of being merely a slit. It is more properly a canthoplasty. The external canthus is extended outward to the external angular process. Then inserting the points of a scissors underneath both skin and conjunctiva the tarsal ligament is felt for, cut loose and a small portion excised above and below.

The rationale of the treatment is this: the main feature of the pathology of trachoma is atrophy which effects both the conjunctiva and tarsal plate. This is accompanied by an inflammatory action the whole resulting in increased pressure against the globe which results in ulceration and pannus.

Old cases of trachoma show an involvement of the free edges of the lid with a tendency of the hairs to turn in further increasing the liability to ulceration and pannus. The operation described is therefore always done in old cases to relieve the pressure already existing and in all of those except very recent cases to prevent pressure which will develop when atrophy takes place. The pressure being relieved the tendency to ulcer formation and pannus is practically obviated.

In advanced trichiasis following old cicatricial deformity, I do not believe that canthoplasty or canthotomy will meet the indications. We must do much more extensive surgery, and I believe the best operation for a condition of that kind is the Hotz Anagnostakis operation, consisting of an incision parallel with the ciliary margin of the upper lid, and about three or four millimeters above the ciliary margin. This (illustrating on blackboard) will represent the palpebral slit. If there is a surplus of tissue in

the upper lid, I always excise between these points and take off the redundant skin. Then I pick up with forceps the fascia and fibres of the orbicularis muscle, exposing the upper portion of the tarsal plate. If it is much thickened, I slice out a portion with a very thin knife. After this is done you will find that the lid is much more freely movable. Next comes our sutures. The operation I do differs from the Hotz Anagnostakis operation in that, instead of using a single suture, I use a mattress suture, in order to secure firmer union.

By pulling on the ends of the threads after the suture has been placed, one can judge the amount of correction required, and regulate it to any degree necessary to cause a turning out of the ciliary border of the lids.

There is one other method of dealing with these cases, which I have tried to my chagrin; namely, removing these lashes by means of electrolysis. I do not know what the experience of others has been, but when I tried to eradicate these lashes by electrolysis, they sprang out faster than I could dispose of them. Therefore, in extreme cases I have resorted to the other operation, which has been attended by complete success.

M. F. Cocmes, (Closing): First, in regard to the use of eserin. Eserin does two things; it shuts out the light and stimulates circulation. I would feel absolutely at a loss in a case of corneal ulcer if I could not use eserin.

Dr. Dabney stated that many of the points brought out in my paper could not be found in the books. I did not find them in books; they are the result of nearly forty years' experience, and I wish to thank Dr. Dabney for bringing out that point.

I have never seen iritis result from the use of eserin. We are all afraid of certain things, but I see no reason why any one should be afraid of eserin. I never use a solution of less than one grain to an ounce of water, and I have never had any bad results from it. I have not used atropin for ten years and never expect to use it again. Eserin and atropin are absolute opposites so far as the effect on the pupil is concerned, and it is rather peculiar that men of the experience of Dr. Dabney and myself should differ so widely in regard to such things.

So far as the distinction between trachoma and ordinary granulated lids is concerned, there is just as much difference as between daylight and darkness. In trachoma we have something embedded in the conjunctiva that does not belong there. It is a foreign body, and it is easily diagnosed, whether they be in abundance or in moderation. In trachoma if we will blanch out the conjunctiva, we will find these little bodies, or nodules, in it; in granulated lids we may blanch the conjunctiva as much as we please, and we

will find a smooth surface; these little nodules are not present.

As to the use of copper sulphate, of course we all go more or less by our own experience, but I believe we can get so much better results from muriate of ammonia. When we put a saturated solution of nitrite of ammonia in the eye the stimulation is so great that it turns the conjunctiva white, but the patient goes out of the office feeling good. On the other hand, we may leave copper there for twenty-four hours and it does no good.

Take a case of trachoma that it is desired to operate on. I simply slip a needle under the skin, evert the lid and inject the trachomatous conjunctiva full of quinine urea and operate twenty minutes later. The immediate result is always good, just as in the case of the woman I reported. We all know how sensitive the face is. In this case, I filled everything up with quinine urea, and then made a linear cut from the edge of the lid to the lip, nearly four inches in length, and she said the only pain she felt was when the needle was introduced.

There is an operation that may be done much more quickly than that outlined by Dr. Hall, in children, and the results are so much better. There are two things to do. First, as in the case of the woman I reported, take a large piece of skin out of the upper lid, going clear down to the cartilage, and stitch it up. If we stop there, with or without canthotomy, we do not get results. The thing to do then is to take a cataract knife and cut along the margin of the lid, inside the lash, and let it granulate from the bottom. By this means we get the lash turned up with practically no deformity at all. There is nothing new about it, but this is one of the most satisfactory operations I have ever done.

I wish to thank the gentlemen for their discussion.

Fracture of Forearm.—Treatment. To correct overriding of fragments, attach to hand, anteriorly and posteriorly, as separate straps, zinc reaching from above wrist to 6 inches beyond extended fingers, and fixed above wrist and about knuckles with encircling strips. Apply usual oxide adhesive plasters 2 1-2 inches in width, splint dressing and also a plaster-of-Paris encasing bandage, including hand and lower arm. When this firm, include beneath enveloped forearm, by more turns of plaster bandage, a light, flat wooden splint projecting 1 or 2 inches beyond extended fingers. To a cross-piece at end of this, projecting an inch, attach the double adhesive strap from hand with tacks, thus keeping bony fragments from overriding.—Miel.

CLINICAL CASES

ACUTE RHEUMATISM.

By ASA W. NICKELL, LOUISVILLE.

In submitting for your consideration this evening a brief resume of this important subject as held by our most modern investigators and my subsequent report of an unusual case, I desire to place especial emphasis on some phases of this disease which will doubtless elicit some interest, especially among those of experience, and who have the most graphic conception of this infection.

I will speak a word as to the prophylaxis, but have purposely omitted the direct treatment and that of such complications and sequelae as hyperpyrexia, cardiac complications, anemia, meningitis and chorea, trusting these will be taken up in the discussion.

Acute rheumatism is an infectious disease which manifests itself by its tendency to involve the joints and serous membranes elsewhere: recognized and characterized by an exudative non-suppurative inflammation of the joints with a pronounced tendency to secondary involvement of the endocardium, particularly that of the mitral leaflets and left chamber of the heart (especially in children, during which period aortic lesions are relatively rare,) the pericardium, heart muscle, the pleura. Occasionally, however, the peritoneum and meninges. The most serious sequel of this disease is that which results from its involvement of the cardiac valves. In mild cases of endocarditis of rheumatic origin, almost complete resolution may take place, leaving perhaps a slight thickening of the valves and endocardium. Most usually, however, considerable crippling of the leaflets from inflammatory thickening, adhesions and secondary contraction occurs and valvular deformity and defects result. The mitral valve is most frequently disturbed and the aortic next in frequency, lesions in the right heart are rare.

Etiology of this disease has been discussed since the early history of medicine. Formerly some special secretion or rheum, various chemical intoxications and numerous acids were supposed to be important etiological factors. Among these lactic and uric acid have held a high place. The acid hypothesis was suggested by the acid sweats and highly acid condition of the urine. Recent bacteriological investigations throw some light on the micro-organisms responsible for the disease. An anaerobic bacillus described by Achalme and other French observers, resembling the anthrax bacillus had been considered of importance but his findings have not been sustained. Now the majority of recent in-

vestigators indicate the organism generally present as a streptococcus or diplococcus, somewhat allied to the streptococcus pyogenes and pneumococcus. This has been found in the blood of patients and fluid obtained from rheumatic joints in patients suffering from rheumatism. Their absence sometimes on microscopic examination of joint fluids is explained as due to the fact that the micro-organisms have been destroyed, or retained in the tissues of the synovial membrane, while the fluid exudate is sterile. This organism was named by Poynton and Payne, as the "diplococcus rheumaticus" and they and other recent investigators regard it as the specific cause of the disease. Mantle, Klebs, Singer, Popoff, Leyden, Westphal, Wassermann, Ainley, Walker, Longscope and Malkoff with Poynton and Payne, have reported that this organism has been repeatedly recovered, grown in pure culture and shown to produce an acute arthritis in a large series of rabbits by inoculation. This was regarded by Poynton as a short chain streptococcus in "family" resemblance, and a diplococcus in relation to species. It is very small, retains Gram's stain feebly, shows greater resistance to drying. It produces acid readily and more profusely than the streptococcus pyogenes. Its tendency to abscess production is less than the latter. The numerous reports bearing on the intimate relationship between infection of the tonsils, accessory sinuses, pharynx, bronchiectases and other foci in relation to rheumatism and endocarditis, shows strongly that rheumatism is not only an infection but is associated largely with chronic and acute tonsillar infection from which the streptococci are most frequently isolated. For example, D. J. Davis in the analysis of 45 cases of rheumatism found a diverse flora on the surface of the tonsils, but in the crypts found nearly pure cultures of streptococci, representing different strains, nearly all of which when injected in the rabbits in small doses produced arthritis and the streptococci were recovered and regrown from the joint lesions. It would therefore seem from the reports of many skilled observers that not only may the tonsils be diseased and filled with pathogenic organisms, without perhaps the patient recognizing any serious trouble as an angina, but the organs may appear normal at a casual examination, while they may contain pus and act as an incubator for pyogenicococci. The effect then of such destructive processes in such susceptible tissue as the tonsils, the many grades of toxemia produced by their absorption must be considered. Even when there is no real bacteriemia, the body tissue is unquestionably affected by the materials generated by the constant germ activity with the resulting

destruction of tissue. Such may be of special frequency in childhood when such a process may produce no more evidence of rheumatism than the so-called "growing pains."

Dr. Cheadle's excellent summary for believing rheumatism infectious is: the occasional epidemic prevalence, the variability of type, the incidence upon the young, occurrence of tonsillitis, endocarditis, pneumonia, erythema, rapid anemia, tendency to acid albuminuria, the implication of the joints, the relapses, the nervous disturbances and the specific power of salicylic acid, are all suggestive of an infectious disease. Some claim we can go little beyond this assertion at the present, that neither finding the germs in the affected tissues, nor the production of arthritis in animals with recovered organisms is sufficient to prove the *causative factor*, as many diseases are associated with an arthritis and many germs will produce this condition in animals. *But* we must admit that the streptococcus or diplococcus is found with remarkable regularity by Poynton and Beattie and produces in susceptible tissue, the chief lesions and complications of acute rheumatism with alarming constancy. The fact that the organism is arranged sometimes like a diplococcus and then like that of the streptococcus, is interesting in its relations to the findings reported by those investigating the flora of diseased tonsils. Recent statistics show coincident tonsillitis in 80 per cent. of cases of acute rheumatism and sometimes an acute or slight tonsillar infection antedates rheumatism by three or four weeks. Then we are bound to admit the close connection between certain known infections whose etiology we can demonstrate and the phenomena of rheumatism.

In consideration of the morbid anatomy of rheumatism we note the lesions are in structures which are very active, as a joint, muscle tendon and heart. The association of heart involvement is so common in children that it is considered to represent typical ravages of the infection. Macroscopically, the joints present the typical features of involvement. Rheumatic nodes can be felt beneath the skin in the tendons of the digits, the patella, and region of the occiput, in small oval masses. In endocarditis, the endocardium is swollen and anemic with the presence of warty protuberances and are most frequent on the mitral aortic valves. In myocarditis, the walls appear stretched and flabby. The pericardium may show adhesions between its layers and sometimes a certain fibrinous exudate. Microscopic examination discloses three zones as being constant: the outer zone of swollen connective tissue, one of cellular exudate and one of necrosis with exudate. Where there is pericardial and joint involvement, the fibrino-

cellular exudate, furnishes constituents for the fluid in either pericardial or synovial sacs. Warty growths on the valves are fibrin. Malignant endocarditis is rare. When present there is an area of ulceration while in myocarditis, there is often found areas of fatty degeneration.

In view of the almost conclusive information, concerning the cause and portals of infection, I believe that proper care of the nose, throat, and teeth in children and adults constitutes the first procedure in prophylaxis. We must also consider prompt treatment anywhere about the upper air passages and especially the tonsils. The early removal of adenoids and diseased tonsillar tissue is imperative. Not entirely because of the relationship between focal infections and acute and chronic arthritis, but because of poor nutrition and retarded development, which may and perhaps does, influence the future of such unfortunates.

(REPORT OF CASE.)

I regret that I have lost my record of this case and will as best I can recall some of the salient points. It was a peculiar case of rheumatism, exhibiting one feature that I have rarely seen in such cases, that of such pronounced and prolonged delirium. The patient was a German gardener, about 50 years of age, subjective history unsatisfactory. Objective, an angina preceded this attack with all its symptoms, then the typical symptoms of inflammatory rheumatism, inflammation about the joints with considerable effusion into the sacs, præcordial oppression, et cetera. I had him removed to St. Anthony's Hospital the early part of March and kept him there perhaps six weeks or more. After he had been there a short time he became delirious and during the succeeding 24 hours, looked as if he might die at any time, soon he became stronger and more violent and when occasion presented would leave his bed and try to get away and kept the other patients in an uproar, but by the close vigilance of the orderlies we kept him in bed where soon his condition became so grave and he was so weak that he was not difficult to control and he just lay there for several days with a low muttering delirium, till after a prolonged and aggravating period he began to clear up and in about ten days was comparatively lucid. I had Dr. Cecil see him with me on two occasions and did not change the treatment in any way. I did not give him antistreptococci serum or the phylacogens because I was afraid of the reaction from the latter agent with his condition present. He had a genuine pancreatitis and for some time it seemed as though the heart sac was filled with fluid and

the sounds scarcely audible. Finally the condition cleared up and the patient left the hospital. This was one of the worst cases of the kind I have ever seen and for that reason I desired to report it.

DISCUSSION.

J. M. Ray: I read an article recently, on the subject of the relationship between the tonsils and tuberculosis, in one part of which, quoting from Wright, who is one of the best pathologists in this country, he said that, while tuberculosis may be contracted through the tonsils, he does not believe this is true in the vast majority of cases. I think we can say practically the same thing in regard to the relationship between the tonsils and rheumatism. A great many people have tonsillitis who do not have rheumatism, and vice versa. Simply because the two conditions sometimes occur simultaneously is no reason for believing that the tonsil is the avenue through which the rheumatic infection gains entrance into the system. Practically all of the investigators along this line have been able to trace the infectious organism into the tonsil, but none of them has been able to positively determine how it gets from the tonsil into the circulation. Tuberculous infection, for instance, may get beyond the tonsils, into the lymphatic glands of the neck, and stop there. I am inclined to agree in the opinion that, in early life, during that period when we think we know that the tonsil has a function, its removal really means the removal of a barrier to the entrance of various infectious organisms. Later on in life, after the period when the tonsil has a function, it becomes a disease-promoting organ, and may then be removed; but as long as the tonsil has a function, which is to protect the system against various infections, I think it is best to leave it in situ. If the tonsil promotes disease by the absorption of infectious material, then why not also the mucous membrane of the pharynx and naso-pharynx, which offer a much broader surface for absorption than does the tonsil. Some time ago I saw a child who was subject to recurring attacks of follicular tonsillitis, the recurrence having become sufficiently frequent to demand radical treatment. I removed the child's tonsils, and the mother believed, of course, that the child would never have any more systemic trouble from that source. However, in time the child developed follicular spots similar to those that had appeared on the tonsils, and exhibited the same evidences of sepsis that it had before the tonsils were removed.

C. H. Harris: I fail to see anything unusual in the case reported by Dr. Nickell. It is not uncommon to see delirium in a case of active rheumatoid arthritis. The only feature that might be considered unusual is the fact that the man had pericardial effusion, myocarditis, endocarditis and pericarditis, and got well in four

weeks. I do not know what the doctor's treatment was, but if he cured endocarditis, pericarditis, and myocarditis, with effusion, in four weeks, he certainly obtained a remarkable result.

Asa W. Nickell, (Closing): I think Dr. Harris is a man of some experience; but Dr. Cecil, with all of his experience, as internist and teacher, said that this was one of the most unusual cases he had ever seen. I did not state I cured this man in four weeks but at the expiration of six or eight weeks he left the hospital for the home of his sister where in three or four months he resumed his duties. I leave it to the Society as to which opinion of the two gentlemen they should attach the most significance.

This man had a myocarditis. I believe that, in the presence of any toxin in the system, whether it be from influenza, pneumonia, diphtheria, or rheumatism, if the heart has to deal with it very long the patient will have a myocarditis in greater or less degree. We may have an endocarditis sometimes and not leave much pathology behind. Also, according to some of the best clinicians in this country, we may sometimes have a myocarditis of severe type, with an entire absence of frank symptoms.

I have great respect for the opinion of my friend Dr. Ray, but he must confess he differs absolutely from that of D. J. Davis, of the Northwestern University of Chicago, and others who have been employed by Research Bureaus of this country to investigate the etiology of rheumatism on Rhesus monkeys, etc. They not only find this poison in the tonsils, but in the accessory sinuses in the antrum of Highmore, and in the pharynx, and they have demonstrated this in 80 per cent. of cases by taking this poison from the tonsil and injecting it into rabbits, producing the typical symptoms of this condition. It seems to me that is almost conclusive evidence of the relationship between the tonsils and rheumatism.

PERIOSTEAL SARCOMA.

(REPORT OF CASE.)

By GUY P. GRIGSBY, Louisville.

The history of the case that I wish to present to-night is as follows. Rose H., colored, age 19. Family history negative as regards malignancy, has had the diseases of childhood but has never had any serious illness up to the present time. Has in fact been unusually free from any sickness. The present trouble began, she thinks, about four or five months ago. The first thing that she noticed was the presence of a small tumor about the size of a walnut on the outer side of arm just a little below the shoulder joint. Careful questioning I could not elicit any history of injury or anything else that might be considered as a causative factor. This growth was painless

and in consequence she paid no attention to it. It rapidly increased in size and a little before X-mas she consulted her family doctor who is colored. He treated it upon the supposition that it was an inflammatory condition based upon the fact that she was running a little temperature, the pain, and the local condition. The tumor increased in size and he consulted two of the local doctors and they advised bringing her to the city. After examining her I made a tentative diagnosis of sarcoma and advised an X-ray. Dr. Keith has made two very beautiful plates that are more or less confirmatory of the original diagnosis, that of a periosteal sarcoma. The term "osteosarcoma" has very unfortunately crept into the literature of tumors, and is used to signify a sarcoma which originates from bone regardless of the structure of the tumor. I believe that it is better to classify these tumors as myelogenous and periosteal sarcomas of the bone. Myelogenous sarcoma may appear in connection with any bone of the body especially the lower jaw and the epiphyses of the long bones, rarely in the diaphysis. They are made up of several structures, small or large round celled, spindle celled, or mixed. They often show great numbers of giant cells. Contrary to general opinion sarcoma are not confined to any period of life, but may occur at any age. However periosteal sarcoma are perhaps oftener found in the young patients. The tumor is usually firm but may be extremely soft. The growth is often spindle shaped and gradually surrounds the bone, metastases are likely to occur relatively early, and the tumors, as a rule, are very rapid in growth. There is danger of confusing the diagnosis with syphilitic lesions and especially with tuberculosis, which cannot always be done by a Wasserman or the tuberculin tests, for it must be remembered that a syphilitic or a tuberculous individual may develop sarcoma. It is even more difficult as in this case when it is near an articulation. They may also be confused with inflammatory processes.

The continued growth, the outlines of the tumor, the continuation of the growth whether the part is functioning or at rest—inflammatory processes especially the chronic ones are improved by rest—favor the diagnosis of sarcoma. The skiagraph after all is the most important means in arriving at a correct diagnosis. The diagnosis of the case in question is based upon the local appearance of the tumor, the rapidity of the growth, the involvement so early of the surrounding structures, the age, and the X-ray findings. The treatment, of course, is palliative, as it has advanced so far that surgical intervention would only promise a very early recurrence.

DISCUSSION.

C. B. Spalding: I am very glad indeed to have seen this case. The treatment and the ultimate outcome of the case are to me the most interesting features. I would like to know what Dr. Grigsby proposes to do for this patient. My own opinion is that not much can be promised, as the glandular structures and muscular tissues underneath are apparently already involved.

Ben Carlos Frazier: Dr. Grigsby did not refer to the treatment in his report of this case. The most interesting question in connection with this patient is, how long will she live, and whether or not she will have changes in the mediastinal glands and lungs before very long. As the doctor said in his report, it does not appear that there is anything to be done for this patient that holds out any promise.

W. C. Dugan: This is certainly a very interesting case. In view of its rapid growth, and the feel of this tumor upon palpation, I do not believe there is any question that it is a periosteal sarcoma, or what is called a vesiculating osteosarcoma, where the blood vessels become calcified, and the growth is very rapid, soon involving all of the soft structures. I have seen two such cases, both of which ran very rapid courses, bearing out what Dr. Grigsby said in regard to treatment—that only palliative measures are indicated. Shoulder-joint amputation will do the patient absolutely no good.

H. H. Harris: Do not these conditions oftentimes follow trauma?

Guy P. Grigsby (Closing): Answering Dr. Harris' question in regard to trauma, it is true that trauma is very frequently a factor in the etiology of these tumors. However, a sarcoma may occur with no apparent cause, as it did in this instance. I was careful to bring out the point in the report that I tried to elicit a history of injury, but was unable to do so. The phase of this subject that is most interesting to me is that of diagnosis. I have been unfortunate enough to have seen two similar cases within the past year. One of these was seen later on by Dr. Vance, who did a shoulder-joint amputation, followed by recurrence and the death of patient within three months. Both of these cases went unrecognized for a period of six or eight months, until there was absolutely nothing to hope for from operative interference.

One of these cases was in a man about 32 years of age. As stated in the report, the development of sarcomata is not confined to any certain time of life—they occur in the old as well as the young. The periosteal type of sarcoma, however, is more prone to develop in the young.

Whenever I see a tumor, no matter where it may be located, the first thought that occurs to me is the possibility of malignancy. My first step, therefore, is to eliminate malignancy, and

not until I have done that do I proceed to some other explanation of the causation of the tumor. In this way there is less likelihood of overlooking such conditions as this until it is too late for successful surgical intervention. The first case I saw had been under the observation of her physician, a colored doctor, for more than three months, and had been examined by two other doctors, none of whom had recognized the condition. The diagnosis is a very pertinent question in connection with this subject, and should not be overlooked.

ABSCESS OF LIVER.

(REPORT OF CASE.)

By S. T. YEATTS, Louisville.

Patient M., colored, female, age 45, weight 144 lbs. She had been a resident of Louisville for a number of years, occupation, a seamstress and housemaid, had been married 22 years, one child born. The patient had been in good health, with the exception of occasionally an attack of indigestion, also two attacks of severe pains in region of liver, about one and two months previous to this trouble.

On March 16th, I was called by Dr. L. T. Cheatham, of this city to see this woman, the diagnosis already made, abscess of the liver, sent to the Red Cross Hospital and ready for operation. I found her with a pulse of 120, temperature 102, suffering with a great deal of pain in region of liver, also a distinct bulging over the painful area.

Under gas anaesthesia administered by Dr. W. O. Onderdonk, the field of operation was first cleansed by benzine, allowed to dry, then painted over with a 50 per cent. solution of iodine, the incision was made over the most bulging portion which was the outer border of rectus muscle. After dividing skin, fat and fascia of rectus muscle, the fibres of this muscle were necrotic and full of pus, the liver was adherent to abdominal wall covering over a large area, hence it was not necessary to enter the abdominal cavity to open the abscess.

Upon opening the abscess there escaped a large quantity of typical chocolate colored pus, drainage tube inserted, wound closed, patient put to bed with no marked depression or shock.

Within two days following the operation, her pulse and temperature returned to normal, appetite increased, bowels became regular. In 7 or 8 days permitted to use the head rest.

Drainage tubes removed on third day and at this time she was given the bacterins; giving a dose every 3 or 4 days, but the drainage remained profuse.

She had a dry hacking cough, all the time

as they do when the diaphragm is involved, though her respiration was not interfered with until about the 10th day. She developed trouble with left lung. Supposedly an infarction, respiration became embarrassed, temperature and pulse went up. Her condition grew worse until the 14th day, when she died.

Post mortem could not be obtained.

DISCUSSION.

J. Hunter Peak: I had the good fortune to see this case with Dr. Yeatts. I have seen a number of these cases, and in most of them the termination has been similar to that reported. Those cases of abscesses of the liver that I have seen have usually followed some condition below, such as typhoid fever or appendicitis. In this case, however, there was no history of any abdominal condition prior to this attack.

This case was interesting for more reasons than one. In the first place, the patient had always enjoyed good health; there was no history of any previous intra-abdominal condition that might have led to an abscess of the liver. Furthermore, it appeared to me that Nature was endeavoring to take care of the condition, and for a while it seemed that the abscess would open itself. The liver has no capsule to prevent it from swelling, and in the presence of an inflammatory process it sometimes swells to such an extent as to fill almost half of the abdomen, and in this particular case the liver seems to have become attached to the abdominal wall, which had been infiltrated by the pus, as pus was found between the psoas and rectus muscles, and some of the fibres of the muscles were necrotic, making it very urgent to open the abscess and, if possible, without contaminating the abdominal cavity. For a time it appeared that the patient would get well, but the infarct or embolus in the lung soon wound up the case.

Virgil E. Simpson: I would like to ask what character of vaccine was used in this case.

S. T. Yeatts, (Closing): We used vaccine containing streptococci, staphylococci and colon bacilli, after an examination had shown those organisms to be present.

AN UNUSUAL CASE OF PREGNANCY.

By C. E. FREY, Louisville.

On the evening of the 23rd of last month, Mrs. C., with her adopted daughter, 11 years of age, came to my office for consultation. The mother complained about the girl's breasts, saying "they kept wet, some fluid was coming from them." Upon inspection of the breasts I noticed a coloration around the nipples, the diameter of the pigmented circle being very large, possibly 1 1/2 or 2 inches. Slight pressure of the nipple brought forth

a little watery milk. The girl, having a long and tight corset on, I requested the mother to return with her the following night, dressed loosely without corset. Both appeared at the appointed time, the girl put upon the table and on auscultation the fetal heart sound was made out quickly and positively. Taken off the table and in the standing position ballottement revealed the foetal head upon digital examination, per vagina. Both were informed of my diagnosis, the girl strenuously denying having had intercourse. But the following morning admitted her seduction in July of last year. I report the case on account of the girl's youth, she being 11 years old last month, having been born in March, 1903. The girl is a typical blond, weighs 116 pounds, height 4 feet 10 inches, menstruated at the age of 9, suppression of menses since last August. The girl became pregnant at the age of 10 years and 5 months.

A CASE OF SCLERODERMA CIRCUMSCRIPTA.

By M. L. RAVITCH, Louisville.

Sister L. B., of Henderson Academy, was referred to me by Dr. W. W. Wilson of the same city. Patient, who is thirty years of age, began to complain of general weakness two years ago. She had a general pruritus and a tingling sensation all over the body for the last year. About seven or eight months ago, she noticed a parasthesia of the fingers of the right hand. Shortly afterwards, there appeared a marked tension of indurated skin above the elbow. It gave rise to an exceedingly unpleasant feeling so that the patient had a sensation of having part of the skin in a straight jacket. This form of scleroderma which we found in this patient, usually occurs in oval or rounded patches and is known as morphea or circumscribed scleroderma.

Histologically, we notice changes in the corium, there is an increase in the connective tissue with here and there hyaline degeneration; later on, we see atrophy of the stratum corneum and the papilla.

The latest investigators acknowledge that the etiology and pathogenesis of this affection are unknown. The consensus of opinion among the investigators is, that this affection is rather a disorder of the functions of the glands.

The prognosis is not as unfavorable as in general scleroderma. Some cases have been known to yield to treatment. Roborants, massage with emollient remedies, electro-therapy are very useful agents.

MEDICAL PROGRESS

DEPARTMENT OF GYNECOLOGY AND ABDOMINAL SURGERY.

By A. D. WILLMOTH and CHAS. FARMER,
Louisville.

Some of the Newer Methods of Reducing the Mortality of Operations on the Pelvic Organs.—Dr. Geo. W. Crile from *J. A. M. A.*, Oct. 25th, 1913.

Since the inauguration of aseptic surgery the mortality in all abdominal operations has been constantly falling, due to the improvement in technique and the more careful selection of cases for operation.

The saving of the handicapped patient is one of the important problems of surgery, particularly the patients with hypertension and hypotension, the result of infection or organic diseases. Operations on these patients can be safely done if the operation can be postponed to bring the patient to a condition safe for operation.

The dangers in hypertension cases are embolism, thrombosis, renal insufficiency, angina, pneumonia and cardiac failure. Psychic and physical strain produce identical results in patients with hypertension and the seat of danger is in the brain tissue. This has been proven by experiments on animals. The physical substance of the brain cells is exhausted. Emotional stimulation also produces an increase of the internal secretions, epinephrin, thyroid secretion and glycogen.

If an operation could be performed so that no traumatic impulses could reach the brain, or all emotional stimuli connected with the operation could be abolished or reduced to a minimum, then the dangers from an operation would be only those which result from the local injury inflicted. It is claimed that anoci-association accomplishes this.

The operative procedure under this principle consists of the administration of solacing drugs to lessen the pre-operative strain, the administration of inhalation anaesthesia to obliterate harmful impressions during the course of the operation and the progressive use of a local anaesthetic to prevent the passage to the brain of traumatic stimuli from the field of operation, and finally the use of a local anaesthetic of lasting effect that the tissues may be kept relaxed and painful after effects are eliminated.

Ether possesses certain dangers for patients with hypertension. There is a period of excitement in its earlier stage. Nausea and vomiting are dangerous in these cases. In nitrous oxide gas there is much danger of harmful after results.

The complete technique is as follows: An hour or so before the operation the patient receives a hypodermic of morphine 1-6 of a grain and 1-150 of a grain of scopolamin. The anaesthetic may be administered in the patient's room or he may be conveyed to the operating room and the anesthetic given there. When the patient is anaesthetized the division of tissue is preceded by nerve blocking by the use of a solution of novocaine, 1-400. Each division of tissue in the course of operation is preceded by the injection of novocaine. The skin and subcutaneous tissue are injected, then the fascia, the remaining muscle or posterior sheath and the peritoneum. Momentary pressure is exercised on these structures after the solution is injected so that the anaesthetic effect may spread. Next, the peritoneum is everted and a 5 per cent. solution of urea and quinine hydrochloride is infiltrated, and subjected to momentary pressure. The effect of this will last for several days and wound and gas pain are minimized.

If no cancer or acute infection in the field of operation the meso-appendix, the base of the gall-bladder, the uterus, the mesentery, or any portion of the peritoneum may be injected.

C. F.

Cancer of the Uterus.—Some Points to be Observed in the Early Diagnosis.—Dr. Rufus B. Hall, *J. A. M. A.*, October 14, 1913.

Dr. Hall states in this article that though cancer of the uterus has received more attention than all other diseases peculiar to women, most of the study has been directed toward the development of operative technique rather than the problem of early diagnosis.

It is important that the family physician who sees the patient early should make a diagnosis in time for operation. If a diagnosis is to be made early it must be through the education of the laity by the family physician.

The woman should be carefully supervised during the cancer period which is placed at from 37 to 47 years of age, not that cancer does not occur earlier or later than this period but it is most frequent at this age. The slightest complaint, whether pain in the back associated with a slight watery discharge, leucorrhoea or pruritis should be inquired into. During the past five years for every operable case that came under his care there were sixteen inoperable in cancer of the cervix. In cancer of the body it was one to five. It is the family physician's duty to examine into every symptom referable to the sexual organs of a woman just as carefully as if he believed that she had cancer. He would thus save many patients and avoid a great deal of criticism of himself when the patients reach the inoperable stage.

The trauma of labor plays an important etiological role in the production of cancer of the cervix, and this should be borne in mind. More than 98 per cent. occur in women who have borne children. The early symptoms of cancer of the cervix in the order of their appearance are first, watery discharge; second, irritable bladder; third, a little irregular bleeding; fourth, disagreeable odor. The watery discharge may be present four or five weeks or three or four months before the patient considers herself ill.

Soon after the appearance of the watery discharge, the patient urinates more frequently than usual. There is associated with the watery discharge a pruritis. The irregular bleeding is not an early sign of the disease. The disagreeable odor so much spoken of by some writers is a late symptom of the disease.

If cancer is suspected from the above history a careful vaginal examination should be made. If malignant disease is present a hard nodule will be found in the angle of a laceration. It bleeds very readily when touched with a probe.

The early diagnosis of malignant disease of the body of the uterus is neglected. It rarely occurs before the menopause. The first symptoms are a watery discharge with irregular bleeding coming on several years after the menopause. Associated with this discharge is an annoying pruritis. The bleeding becomes more profuse as the disease extends.

With this clinical history the physician should make an examination. The uterus will be found enlarged and more sensitive than normal. A probe passed into the uterus shows that it measures three or more inches in depth. Slight instrumentation causes a free discharge of blood. If not sure of a diagnosis after this examination the uterus should be everted and a microscopic examination made of the scrapings.

C. F.

Hemorrhage from the Non-Pregnant Uterus.—Dr. John B. Deaver, in Volume Transactions of Section of Abdominal Surgery and Gynecology, *A. M. A.*, 1913, gives a very exhaustive paper on this all important subject. He calls attention to the confusing classification that is made of uterine hemorrhage and charges such confusion to ignorance of the exact principles underlying menstruation.

Dr. Deaver in dividing the subject from a practical standpoint speaks of hemorrhage occurring during three periods of female life—puberty, child-bearing period, and the menopause and states that all are due to either local or constitutional causes. Under constitutional causes he places hemorrhage due to interference with or departures from the nor-

mal in the internal secretion or secretions from the ovary and other ductless glands. The changes thus produced in the uterine flow may be in quality, quantity, or regularity.

In all cases of hemorrhage the following well known constitutional causes should be looked for and ruled out. Hemophilia should be especially inquired-after. Anemias including chlorosis, leukemia, high-blood pressure, infections, fevers, arterio-sclerosis, syphilis, chronic diseases of the heart, lungs, liver, and kidneys.

The curette once so popular should be saved for the last and then only to be used as a temporary measure. One in every five cases generally speaking derives no benefit from curetting hence curetted unnecessarily.

If patient has had leucorrhoea, with its resulting thick endometrium, such cases may be benefited by the curette.

Local causes may be found in almost any of the pelvic diseases such as gonorrhoeal or puerperal infection of the uterus, myoma, polyp, or cancer, tears, retro-displacement, tubal, ovarian, or tubo-ovarian disease.

In hemorrhage due to local cause or causes, the indications for treatment are obvious and the extent of interference is controlled by the extent of the involvement. A very large number in this class is due directly to parturition. These cases are benefited in most instances by the scientific use of the curette, its use hastening the return to the normal.

Puberty and the menopause furnished the most difficult cases for diagnosis and for relief. Hemorrhage at puberty may be due to ovarian disease or to some form of infection or polyp but are rare, most cases being "essential" hemorrhage.

Contrary to the general belief, many are the result of mild hemophilia which, however, may be severe enough in some cases to produce death. A few the result of chlorosis and some the result of syphilis. Mitral stenosis deserves special attention. Such cases should never be confounded with the endometritis cases and should not be curetted and great care used in the examination, since nervous shocks are prone to produce a morbid mental attitude toward sexual and mental life.

Hyperthyroidism is believed by Deaver to be another cause of increased and irregular bleeding.

Dalehe's explanation of the rapid growth of the body and sudden development and maturation of the ovary unsettling the normal equilibrium and causing a so-called "ovarian ataxia" in which there are periods of hypersecretion followed by hyposecretion should not be confounded with macroscopic disease of the ovary. Again Deaver believes that there is a direct relation between calcium

metabolism and menstruation and would advise that in the treatment the calcium index be determined and if low, suggest the use of 10-20 grains of lactate calcium three times daily.

He believes that calcium is the only remedy of definite value although many others such as ovarian, adrenal, thyroid, pituitary extracts, animal serums, ergotine, styptician and hydrastin are used and believed by many to overcome the cause and control the hemorrhage.

Dr. Deaver's paper is of inestimable value to the profession if in no other way by the beginning his treatment in warning against the too frequent use of the curette.

Treatment: Nothing is so effective as rest in bed for those cases of essential hemorrhage. If hot douches are used they should be limited to married woman but should be avoided in young girls. If the application of heat is desired it should be obtained by hot rectal injections but its use is questioned in any case, since cold to the abdomen in the form of ice bags is far more efficacious.

Deaver's conviction (and also many others) is that the vaginal douches as a routine measure do more harm than good. They are one of the many local treatments that swell the number of women both married and unmarried who suffer from psychoneurosis. Weekly changing of pessaries, unnecessary vaginal examinations, digital massage of the uterus, as done by the osteopaths are also followed by disastrous results. X-rays should not be used for the control of hemorrhage because of its destructive influence on the ovaries.

In hyperthyroidism too much should not be expected from ligation of vessels and removal of portions of the gland, since the symptoms are possibly due to disordered secretions more than to excessive secretions. Thyroid operations should not be done in the young until all other means have failed.

Gelatin is uncertain by the month and danger of sepsis too great to be used subcutaneously. Electricity is a local treatment hence to be condemned.

To Summarize: The treatment of uterine hemorrhage at puberty consists in quietude, rest in bed, free action of the bowels, ice to the abdomen, together with the use of calcium and such other drugs as have been mentioned. Above all time must be allowed for these cases to improve.

Again he warns against the use of the curette. In hemorrhage at or near the menopause Dr. Deaver calls attention to the prevalence of cancer and strongly urges the use of the curette, as being the only means of diagnosing cancer of the uterine body, a condition for which there is no excuse for overlooking,

until the patient is far advanced and beyond recall.

Inspection and section of the cervix is necessary to exclude cancer there. If the cervix or body are at all suspicious a complete panhysterectomy should be done.

If no pathology can be found by eurette you are reasonably certain that the case is one of fibrosis of the internuscular structure along with sclerosis of the uterine vessels. Sclerosis of the uterine vessels is not to be confounded with a general arteriosclerosis.

Deaver calls attention to the fact that the change is the adventitia and media. The media is diminished in size because the muscles are relaxed by fibrous tissue. The intima is not involved and the lumen of the vessel is not encroached upon, a point in differentiating from syphilitic atheroma.

The uterus itself may be small, apparently normal, in others large and soft, in still another class large and firm. The sclerosis is common to all forms.

The treatment in these cases has for its object the preservation of the organs, for this reason X-rays has its advocates, but it must be remembered that atrophy of the ovaries and uterus takes place after its use for any length of time. The results obtained from electricity in any form is not as a rule permanent.

The application of steam has some advocates in the hemorrhage during child-bearing period, but the utter impossibility to regulate the destructive atmoæusis places it as Deaver had said into a class of remedies never tried.

Where the hemorrhage is severe packing has to be done but should only include vaginal packing unless one is certain of asepsis.

Deaver believes that all cases of hemorrhage due to sclerosis should be relieved by complete removal of the uterus.

Hysterectomy is to be especially recommended in these cases as in the polyp cases a diagnosis is sure and certain and conservative treatment can be carried out.

In cases over forty the supra-vaginal hysterectomy should be done with the removal of both ovaries.

A. D. W.

Pancreatitis, Subacute. Treatment. 1. Rest. 2. Limitation of diet. 3. After acute attack of pain has passed off, cholecystostomy.—Archibald and Mullally.

Pellagra. Treatment. Gelsemium followed by much improvement in 5 cases. Fluid-extract, 3 or 4 drops every four hours, given. Discontinue drug if ptosis or diplopia occurs.—Blosser.

MEDICAL PROGRESS

DEPARTMENT OF OBSTETRICS.

By FLORENCE BRANDIES AND BEN CARLOS

FRAZIER, Louisville.

I.

Wm. Kohlman in *New Orleans Medical and Surgical Journal* for March, in writing of Cesarean section in ante-partum hemorrhage claims that the quality of obstetric operations has improved in treatment of this complicating emergency as in other important obstetric-al crises.

In placenta previa the two old well recognized procedures have been version according to Braxton Hicks and metrensis. Without discussing the merits of these he states that reports from many institutions show a mortality of mothers from 7 to 10 per cent and more, and children from 60 to 70 per cent. Sepsis has been given as the cause of death of the mothers in only 10 per cent, while loss of blood has claimed the majority of the victims. Cesarean section has therefore in recent years been looked to as the solution of this great problem; he gives three main points in favor of this radical procedure: First, intra-partum hemorrhage prevented, as dilatation of lower uterine segment not necessary; second, in case labor set in and loss of blood makes termination imperative, a pro-Cesarean may yet save mother and child; third, Cesarean prevents post-partum hemorrhage.

Kohlmann cites Kroening and Seisheim as advocating this method of delivery in selected cases as in placenta previa centralis and lateralis, complete dilatation not having taken place. The great reduction in mortality of mother and child must without doubt accord to this operation, the place it so justly merits.

He reports a case of pregnancy at eight months, multipara with repeated hemorrhages of varying amounts, examination showed placental tissue presenting over os—labor pains felt during two hours; diagnosis, placenta previa centralis. Operation, Cesarean section. Mother and child both did well and left the hospital on ninth day.

He reviews history of hemorrhages in accidental, premature separation of placenta and calls attention to the greater danger to both mother and child in this condition than in placenta previa—this would suggest Cesarean section as operation of choice.

He quotes Goodell, Branus, Hertzfeld, Stefens and Zweifel and from all we gather the overpowering mortality record, and lays great stress upon the dangers of post-partum hemorrhage. After reviewing the various causes productive of accidental hemorrhage, Kohl-

mann reports a case of that character in which there was danger of post-partum hemorrhage in which he advised and did a conservative Cesarean, delivered the mother of a much-longed for living child weighing five pounds and six ounces and uterus contracted so promptly and well that there was not more loss of blood after delivery than is usual in a normal birth. This excellent result he ascribes to the use of pituitrin, which was given hypodermically in dose of 1 c. c. just before incision of uterus. In this case also mother left hospital together well early in puerperium.

F. B.

II.

The Southern Medical Journal prints the paper of Stuart McGuire read at the Southern Medical Association meeting at Lexington, Ky., subject being "Evolution of Treatment of Ectopic Pregnancy."

After referring to history of knowledge of condition, of procedures in handling same he pays a fine tribute to our own McDowell, who opened the abdomen for other conditions; why not for this one—it was not, however, until after the publication of Parry of Philadelphia in 1876 in which he analyzed 500 cases of ectopic pregnancy, and reported a mortality of 67.20 per cent. that this appeal for help was answered by Lawson Tait, who undertook a death grapple with this dire emergency and reported a case of death from failure to operate; this shamed him so he opened the abdomen in a case of ruptured tubal pregnancy in January, 1883.

This first attempt met failure but within the next six years he reported 39 cases with but two deaths—a triumph indeed!

From Tait's triumphs to the even greater ones of Joseph Price the story goes and as McGuire says history rests.

The still unsettled questions facing the surgeon are those of:

1. *Drainage*: In a case of ruptured tubal pregnancy without infection, close abdomen without drainage.

2. *Saving Ovary of Affected Sides* Never remove sound ovary—thus avoiding possible sterility and premature menopause.

3. *Immediate Operation*: Operate on unruptured cases as soon as diagnosis is made and on ruptured cases also as soon as patient is seen.

4. *To Remove or Ligate Opposite Tube to Prevent Repetitions* After recital of opinions of other operators, McGuire reviews histories of his own primary and secondary operations and voices the conclusion that the chances for subsequent pregnancies are fair and should be accorded to every woman. He fears operations little and values babies highly.

F. B.

III.

The Medical Herald, March, 1914, publishes the papers of a "Symposium on Pregnancy" which were presented before the Medical Society of the Missouri Valley, at Omaha, September, 1913, the titles being:

1. "Diagnosis, Course and Management of Normal Pregnancy."

2. "Abortion, Diagnosis and Treatment."

3. "Ectopic Pregnancy."

4. "Advice to Expectant mothers."

5. "The Medical and Hygienic Management of Moderately Abnormal Pregnancies."

The last contains a strong plea for early and frequent visits of the expectant mother to her chosen medical advisor.

Dr. Strong advising that the physician see the patient; have her bring specimen of twenty-four hour urine and not leave it at office but allow an inspection of aspect and examination of pulse in addition. She urges early recognition of even slight abnormalities of pelvis, and in such cases insists upon especial care given to diet of mother and exercise of same—thus regulating to some extent the size of child and somewhat the ossification of the head. The most important aid to the first being work for the mother—exercise calling into play the abdominal muscles which hasten the engagement of the head, forcing it into the pelvis. She describes the practice of a large maternity hospital of New York, which makes every expectant mother do her part in scrubbing the floor of the ward—this is good for obvious reasons.

She next reviews the diet; forbidding oatmeal, whole wheat cereals and fresh milk—sweets are also tabooed. Buttermilk, all fresh green vegetables, meat in moderation, also eggs and bacon sparingly, with fresh fruits, except bananas, are allowed. Water, pure and fresh must be used freely.

The doctor insists upon explicit directions and upon the use of such terms as each individual may understand—avoid technicalities. Attention to pulse, quality and rate, examination of urine; free and frequent, regular evacuation of the bowels, never taking patients word as to the amount of fecal matter passed—always insist upon more.

Care to prevent engorgement of liver by above method, and in cases of toxæmia she advocates the use of calomel in 10 grain doses even before serious developments arise.

Under hygienic management she advocates baths, neither hot nor cold; keeping the skin active to the point of perspiration. Care must be taken to ascertain the effect of baths upon pulse and pressure especially in even mild cardiac or renal involvement. She outlines a diet in renal and hepatic insufficiency and insists in both instances in withdrawal of

meat and judicious use of water and lemonade.

She summarizes thus: "Be sure of your pelvic diameters; a diagonal conjugate of 2 1-2 inches being the province of the surgeon.

If diameter be moderately decreased keep baby small and mother strong by proper diet and regulate work or exercise.

For toxemia, diet, and free elimination by skin, kidneys and bowels." F. B.

IV.

The Journal of October 25, 1913, in an editorial on the work of Murlin and Bailey on "Further Observations on the Protein Metabolism of Normal Pregnancy" rejoices in the fact that this important work should serve to dispel some of the illusions current in regard to the supposed perversions of nutrition frequently connected with the late period of gestation; that so much has been asserted regarding the supposed deviations from the normal in this period, so much emphasis has been placed on the dangers from a high ammonia percentage, that it is a satisfaction to learn the conclusions reached by the Cornell investigators.

In general they believe that peculiarities in the composition of the urine of normal pregnancy as regards its nitrogenous constituents may be accounted for on purely physiological grounds.

I.

USE OF PITUITRIN IN OBSTETRICS.

Pituitrin like many other valuable medicinal agents is used for many purposes, but we will only discuss its use as an oxytocic as that is where it has been most used and with best results. There are many reports now both from home and abroad setting forth its use and effects. Most reports are quite similar, usually quite complimentary to the action of pituitary extract, though some are much more inclined to limit the use of it than others. Personally I am inclined to think we have not learned just how much to expect from its use and it may be that some have condemned it before they had used it, or become acquainted with its use to give an unbiased consideration.

Malinowsky reports favorably and gives charts showing the rhythm of uterine contractions, normal, violent and tetanic excited by doses of this material. The effects according to Malinowsky of 1 c.c. of pituitrin lasts for one hour. The duration of each pain is diminished and so are the intervals. Tetanoid contractions spoken of by others, he seems to think a physiological curiosity as he has never found the into do harm either to mother or child. 1 c.c. of pituitrin is quite enough for a dose and should only be used from ampules. Smaller doses are less satisfactory.

There have been practically no bad results from the use of pituitrin to the mother in properly selected cases. The second stage of labor is where the best effects are to be looked for from its use. Some very gratifying results have been reported from the use of pituitrin in puerperal convulsions. Its use of course, is given with the desire to hasten delivery. With a high blood pressure already present and recognizing that pituitrin raises the blood pressure you have a contraindication for its use, but the effect is transient and if rapid enough to cause spontaneous delivery or to bring the head on the perineum where forceps can be easily applied and thus bring about a hasty delivery, the desired end has been accomplished.

If, however, you have a poorly dilated os with a high blood pressure and the administration of pituitrin should further raise your blood pressure it seems that eclamptic convulsions are very apt to be the result. I would not hesitate to use one dose (1 c.c.), but I would not venture further if not successful with the first dose.

Benson says, that the action of pituitrin in the average case is nothing short of wonderful. He has used it in seventy-seven cases with only one failure to have marked effect on the pains. He further states that in the multipara cases where he has used pituitrin there were few after pains and they were of short duration. Benson, as well as Edgar and others, lays great stress upon the necessity of a fresh preparation used only from ampules. He also warns against the possible dilution with alcohol which he seems to think interferes with the action of pituitrin.

Chloroform in the early administration of pituitrin retards its effects and should not be given until the head is quite low. The fleeting action of pituitrin calls for repeated doses to have a continued effect and there has been a warning sounded against the slowing of the fetal heart sound, however, there has been no fatal case to the baby reported, except in the first stage of labor where compression of the placenta or deep rupture of the cervix. Very few authors advise the use of pituitrin in the first stage.

Most others also claim that the most positive results are in multipara rather than in primipara cases. The preparation is supposed to be better in full term than in premature labor. In fact quite a number of reports think its action in abortion or premature labor is uncertain, though there are some other gentlemen reporting cases where they have gotten good results from its use in abortion. Cardiac and renal diseases are contraindication for its use as observed by men who have had most experience.

Pituitrin has no place in normal labor and its administration should be confined to cases in secondary inertia.

DeLee, in *Practical Medicine Series*, says it has become necessary to sound a grave warning against pituitrin. He states that, as we all recognize, it as a most valuable drug, yet it is being most fearfully and criminally abused. He further states that pituitrin is a very useful agent, adding so is the obstetrical forcep, but the man who will use the forcep without scientific indication is no more criminal than the man who uses pituitrin without scientific indication. The use of pituitrin in deformed or contracted pelvis is of course a contra-indication to its use. B. C. F.

II.

TREATMENT OF THE THIRD STAGE OF LABOR.

There are three methods ordinarily recognized in the treatment of the third stage, first, the Dublin, second, Crede, and third, Ahlfeld. It was not until 1861 that Crede taught by his familiar technic to express the placenta as soon as the child was born. This slowly gave way to the expectant method of Ahlfeld. It was not many years later that Crede himself recommended waiting for half an hour for the normal delivery of the placenta.

I have always thought that the kneading of the fundus in normal cases was unnecessary, and frequently harmful. According to Ahlfeld the uterus should be left entirely alone and the attendant only satisfying himself occasionally as to the consistency of the contraction. B. C. F.

III.

PRIMARY RESTORATION OF THE PERINEUM AFTER LABOR.

All perineal lacerations should be repaired at once if the patient is in sufficient hygienic surroundings to insure clean work. Some authors advise that repair in primipara is more or less useless because in subsequent bearing of children laceration will again occur and the premature repair has been useless. This seems to me to be rather poor reasoning as there is always a possibility that the mother will not bear further children and even if she should there should be sufficient perineal support to give her some comfort even up to the time of the next pregnancy, when a laceration might not occur. Of course, there is a possibility of the lavator and being sutured too high, to cause a certain amount of stenosis of the vagina. In very few cases is it necessary to freshen the tissue as careful suturing will bring the muscles well in apposition, and good results will be obtained unless there are shreds with blood supply not sufficient to heal. Very small lacerations, of course, should be let alone because there is a certain amount of

repair that take place anyway. These small tears I usually leave unrepaired. B. C. F.

IV.

NURSING BY PUERPERAL WOMEN.

It has been a general belief that a great many women could nurse their babies if they only had sufficient inclination and the doctor and nurse were persistent enough in their efforts to assist her. A few authors have gone so far as to say that any healthy woman who has the desire can nurse her child. It seems to me that anyone making a statement of this kind has had very little experience and observation in the breeding of lower animals because it has been definitely proven that a good many lower animals have not sufficient milk to maintain their offspring, and the same thing applies to the human. Many families are poor milkers, often a daughter cannot nurse her child and it will be found that the mother could not nurse her children. I have had very few mothers under my care who refused to nurse their babies and quite a number have made persistent efforts, even having all the attention and help possible, but could not possibly furnish enough milk to maintain their children.

There are some galactagogues that are of some service and these along with nutritious food, rest, lack of worry, sufficient exercise to keep up appetite usually will place a mother in a position to nurse her child if her mammary secretions are at all worth while.

However, occasionally with every advantage there are certain mothers who are unable to nurse their babies sufficiently to have them grow. Women who bear children late in life are much less likely to be able to nurse their babies than those who have borne children in the late teens or early twenties.

Of course, chronic diseases, puerperal sepsis, and such conditions are indications for the child not to even attempt to nurse its mother.

Women usually prefer to nurse their children both from the pleasure of nursing and to save a certain amount of trouble and care that a bottle baby causes irrespective of the fact whether the nurse or mother is to care for the baby. All mothers should be encouraged to nurse their babies if their health is such as to warrant the belief that they can do so without jeopardizing either their own health or that of the babies. B. C. F.

Femphigus. Treatment. Case of refractory pemphigus in which intravenous injection of blood from patient's husband, without previous defibrination, was followed by complete recovery. —Practorius.

VENEREAL PROPHYLAXIS.

By IRVIN LINDENBERGER, Louisville.

The bibliography on this subject is most extensive. A summary of same is not appended.

For those who through ignorance or other reasons do not need preventive measures, it can be said that there is not the shadow of proof to show that continence is damaging to health; to those that do, I think there can be no question that the time has arrived to endeavor to regulate and control the spread of venereal disease.

That prostitution is the principal source of sexual disease is not disputed. Prostitutes who are the especial objects of police care are demoralized, they spread demoralization, cause enormous waste, and inevitably and invariably spread disease. Losch has estimated the annual cost of prostitution in the German Empire at something like \$125,000,000. This outlay may be contrasted with that spent by the Prussian Government on its entire educational system, i. e. \$50,000,000.

Kelly estimates that venereal diseases cost America three billion dollars a year. These figures seem underestimated rather than exaggerated. The Chicago Vice Commission estimates that the profits accruing from prostitution in that city alone amounted to \$15,000,000 annually.

Fiscer thinks that 10 per cent. represents the leucic cases in the United States, and he further states that there are 250,000 deaths each year due to venereal infection. Morrow states that 75 per cent of adult males acquire gonorrhoea at some time, and that from 5 to 10 per cent acquire syphilis. He bases his figures not only on his own observation, but on the opinion of such men as Neisser and Fournier, and on the statistics found in the clinics and dispensaries of continental Europe. In this connection he calls attention to the unreliable reports furnished by our hospitals, because cases of the primary diseases are not admitted, and only in the practically incurable stages. are venereal cases given housing under such titles as arthritis, prostatitis or endometritis in gonorrhoeal patients, and general paresis, tabes dorsalis, aneurysm and so forth, in specific cases.

Osler puts syphilis next to tuberculosis, pneumonia and cancer as a death dealing agent. A conservative estimate puts 10 per cent of the insane in the Massachusetts asylums due to syphilis, and the yearly cost of their maintenance is \$300,000. Morrow also assures us that 80 per cent of infectious peculiar to women are due to gonorrhoea. Were it not for that disease the gynecologic depart-

ments of the hospitals might be almost done away with, for from 75 to 80 per cent of all operations on the female genital tract are necessitated by gonorrhoeal infections. Gonorrhoea is not considered so malignant by the general run of men, but as a matter of fact with its quite occasional complications it is quite a serious condition. Rosenstein ventures the opinion that 20 to 25 per cent. of the inmates of our institutions for the blind are the results of gonorrhoea alone. At the present time 35 states and territories have laws concerning ophthalmia neonatorum. Our own State passed such a law at its last Legislature.

Concerning the source of supply of prostitutes is the startling fact that practically the total derivation is from the lower working classes, and usually the unmarried women of these classes. Very rarely indeed a person of some education, social standing, and personal charm is met with. Most cases have had only rudimentary training, and evidence shows causative relationship between mental defect and prostitution, but however, far from being the only relationship. The relation of the home is one of many causative factors in the production of prostitution.

Cities and countries differ in race, ideals and traditions, and while bad housing, emphasized by some as a marked factor in the causation of the "social evil," is of less importance than the racial traits of the dwellers. In the Ghetto of New York City, perhaps the most congested district in the world, containing many houses unfit for human habitation, prostitution among the Jewish girls is rare. I judge they must follow the 22nd Chapter of Deuteronomy, for here we have the practical results of religious education. Up to April 1st there have been from outside this city over 200 women turned away from The Business Woman's Club, not that they do not want them, but they have no accommodations for them. The future of some of these girls can be surmised as a result of their leaving a good home in the country, or a good home in the city.

The arguments pro and con concerning any method of control of vice and venereal disease have never up to the present time had the unanimous verdict of any society or organization. There is a unity in three recent reports, i. e. the Police Commissioner of Boston, the committee of Fourteen in New York, and the Mayor's Vice Commission in Chicago. These committees all agreed on the need of stern repression of open vice, of a more wide-spread dissemination of medical knowledge among lay adults, of sound thorough education of the young in the fundamentals of sex hygiene, of strict enforcement

of individual responsibility, and of the paying of a "living wage" to girls employed in the industries. They also recommend the abolition of the rear door and hotel features in connection with the saloon. Of especial significance is the fact that the committees are unanimous in the belief that crusades, and the like, are harmful, particularly when conducted, as they often are, by misguided fanatics.

Part of this seems not impossible of accomplishment in a determined community, for Iowa with its Injunction and Abatement Law has one phase of the solution solved. A law similar to this was introduced in our last Legislature, but failed of passage.

The United States has no law against infecting others with venereal disease, as shown by the recent decision of the Supreme Court of Mississippi. Dr. Isadore Dyer, of New Orleans, reports a case of a patient with primary syphilis who refused even charitable treatment, and carried a book wherein she kept a record of the number of men she had inoculated. When she was first seen she declared that the number had reached 219, and she would not be treated until she had had revenge upon 500 men.

The question of personal prophylaxis as to whether we should recommend means by which infection may be more or less combated is not unassailable. Only a few days ago I suggested to a Father the advisability of his son using prophylactic treatment, as I knew he laid himself open to infection occasionally, and he advised against such a procedure, saying it would make it too easy for him.

There can be no two opinions as to the benefit to be derived from such treatment in our soldiers, both army and navy. The results on the U. S. S. Ranger as regards prophylaxis against venereal diseases are merely confirmatory of those obtained on the U. S. S. Concord, on which ship, of 281 known exposures followed by the adoption of prophylactic measures, there resulted only two cases of venereal disease, both of which had exceeded their time limit on shore, and, as a result, treatment had been delayed. The commanding officer of the Concord states that during the first five months in which these prophylactic measures were in force there was not a single case of gonorrhoea or syphilis contracted by the crew. The statistics regarding the measures above are overwhelmingly in favor of prophylaxis of this kind.

Moral arguments may be adduced against such a procedure, but are hardly to be considered as reprehensible as the present wide sale of condoms. These articles are purchased with malice aforethought, whereas medical prophylaxis can be based only on the supposi-

tion that venereal disease is the punishment for transgression, an obsolete and Puritanical view, that is detrimental to any cause, and that carried further, would intimate that no attempts should be made to cure venereal patients. If the prophylactic properties of these packages now on the market were generally known, their sale would go far toward reducing the prevalence of venereal disease among men, and, therefore, among women. I personally believe, from statistics adduced from Naval Medical Reports, that if every illicit or dangerous intercourse were followed by a reliable prophylactic, in a few years we would witness the passing of the scourge as complete as the eradication of yellow fever, typhoid and malaria. The Washington State Medical Society recommended that all houses of prostitution be compelled to provide prophylactics to their patrons, and in Newport, R. I., prophylactic tubes are in the regular houses of prostitution of that place.

A few of the arguments for and against the official regulation of prostitution are as follows:

A. Medical examination is inefficient. In many cases venereal diseases can be diagnosed only by the specialist, and with the greatest difficulty.

A. With the aid of the Wassermann reaction and modern methods of cultures and staining of the gonococcus, diagnosis is not difficult, certainly not so in cases likely to produce infection.

B. Regulation does not regulate, and segregation does not segregate.

B. Efficient regulation is a matter of money, and can be obtained by paying for it.

C. It is impossible to control all women practicing prostitution; even in cities where regulation is most favorably carried out only a small proportion of the prostitutes are under control.

C. Regulation is not a means of eradicating venereal disease, but for every infected prostitute that is controlled a certain number of cases of venereal diseases are prevented. The lower class of prostitutes are the ones that always come under control, and are those in whom regulation is most necessary.

D. At best regulation affects only the woman, while the men are quite as virulent spreaders of the disease.

D. Whereas a man has intercourse with one woman, a prostitute has intercourse with twenty or more men. But a very small proportion of infected men will practice fornication, as they all know they are infected. Some women are not aware of their condition, whereas others will continue their trade for financial reasons. The Chicago Vice Commission reports one girl who had intercourse

with 45 men in one night. It should be borne in mind that if the woman, though not herself infected, may be the carrier of disease from one of her patrons to others of the series.

E. It is impracticable to house all the prostitutes that are infected in public institutions.

E. The large number shows the urgency of reducing the amount of venereal disease. Only those in an infectious state need be incarcerated. It would seem that "606" may greatly diminish the time required to make syphilis non-infectious. Gonorrhoea is a curable disease.

Because a system is inefficiently administered, it does not follow that it is without value. No methods should be branded as inefficient unless they have been definitely proved to be so. Too much should not be expected in a short time, as, owing to the character of venereal disease, and of gonorrhoea in particular, little can be hoped for except by prolonged effort.

There were on March 30th of this year, as given me by the Chief of Police of this city, Col. H. Watson Lindsey, 121 houses of prostitution; 81 houses of assignation, making a total of 202. The number of inmates of regular houses were 500. Number answering calls, 72. Total number of prostitutes 572. There have been closed since January 1st of this year, 18 houses. Number of prostitutes leaving the city in the same time, 65. His department regarding the features as pertain to crime is thoroughly systematized, and cooperation with him, I know, would be most gladly welcomed regarding any health feature.

The debasing effect of alcohol on the moral sense as a causative factor, I will not enter into.

If I were to go before a meeting of criminal jurists and argue that it is useless to imprison thieves because the punishment does not diminish the number of thefts, but, on the contrary thefts are on the increase, I believe they would look on me with something more than surprise. It is nearly, but not quite the same thing for a physician to give his own personal opinion that the regulation of prostitution is the cause of increasing the spread of venereal disease.

There is much truism in the fact that physicians eager to equip themselves as specialists in venereal diseases go to the crowded clinics of Paris, Vienna and Berlin, all regulated places, because there disease is found in greatest abundance and richest variety. In Paris regulation has been in effect 50 years, but the scientific manner of handling it does not approach that of Germany. I judge regulation does do some good or they would not have kept it up for this long.

The law of Norway to me has many features that could with much advantage be used in the United States. In order to assist the health, not the police authorities in controlling the diseases in question all physicians are required to report daily, usually without names (names are given when the physician feels that the patient is likely to spread infection, or when the patient is sent to a hospital), their venereal patients, to furnish the patient with a copy of the laws relating to the communication of venereal disease, and to require the patient to sign a statement acknowledging the fact that he or she has thus been explicitly warned.

Attention is called to the following sections of the Penal Code, Section 155. Whoever, with knowledge or conjecture that he is suffering with a contagious sex disease, infects or exposes to infection another person, by means of sexual intercourse or immoral contact, shall be punished by imprisonment for not more than three years. The same punishment is provided for those who connive at enabling any person who is known or suspected to be afflicted with a contagious disease, to infect in the above manner or expose to infection, another person.

Section 358. Imprisonment for six months or less is the punishment for any one who, without calling attention to the danger of infection: (1) causes a child to be nursed, knowing or suspecting the child to be afflicted with contagious syphilitic disease, or engages any one to nurse such child or, (2) Knowing or suspecting that he (or she) is suffering from contagious syphilitic disease, enters the household of another as servant, or remains in such service, or receives a strange child to nurse it, or aids in bringing about such conditions. The same punishment is provided for those who engage or, having engaged, retain, any person known or suspected to suffer from contagious syphilitic disease, as nurse for a child, or who aids in bringing about such engagement or retention of service.

Regarding the warning, the following is given to the infected party.

I herewith acknowledge that Dr. _____ has called my attention to the following points:

1. That I am suffering from, say, syphilis.
2. That my disease is contagious for at least _____.
3. That, I am punishable, if I in any way expose others to infection. Copies of Penal Code, Sections 155 and 358 received.

Date Signature.....

The physician also endeavors to ascertain the source of infection, and the person inculpated is reported to the Health office. This latter individual on calling by invitation

(You are respectfully requested to report at office No. 55 Akers Street, third floor, as it is desired to talk to you) is informed of the nature of the charge, the name of accuser being withheld, and is invited to submit to examination at a hospital or by a municipal physician. No compulsion is applied, the advantages of knowing the truth, and that offer of free and skillful treatment in complete privacy, form the entire inducement.

If disease is thus proved to exist, treatment can be compelled, to the extent of forcibly confining the infected person in a hospital. Reliable persons receive ambulatory treatment at the hands of municipal physicians, women, at the Board of Health office where a woman physician is on duty. The police are invoked only if an individual having been "denounced" neglects or refuses to comply with the summons of the Health Department. Persons who, having knowledge of their infectious condition, communicate disease, are punished with imprisonment for not exceeding three years. The Danish is quite similar in many respects.

As to the solution, I will not dwell on the ideal, the abolition of prostitution. Education is being strongly advocated, and is of undoubted advantage, but let this education come from the home, where often religion is made part of it, or the family doctor, for it is doubtful to my mind if all the magazine, picture shows, and many "Social Evil" lectures really do the good intended they should, even if given by sincere, well-meaning persons. Wilson states that the medical students furnished a larger percentage of venereal infections than any other student group at the University of Pennsylvania. In many families a sense of false modesty prevents most parents from giving any instruction to their children upon sexual matters, and indeed, it is the testimony of most persons that the discussion of the anatomy and care of the genital organs, the source and dangers of venereal disease, and the subject of the social evil, are topics which were rigidly excluded from discussion in their homes.

I would advise the abolition of houses of prostitution, houses where a madame can hire out girls and make a profit therefrom. The abolition of intoxicating drink in houses that do exist. The advisability of advice by the physician of prophylactic tubes where he is of the opinion it would do good. The adoption in part or in whole of the Iowa Injunction and Abatement law, and part or in whole of the law of Norway.

As to a solution, or to a state of betterment for this city, as at present nothing is being done, I would suggest, that knowing, and having the record of 500 prostitutes in regular

houses, I would make it incumbent by ordinance, that the madames should be made to report the cases of venereal disease that may exist among their number. This method is followed in Detroit, Mich. It is not recommended that these houses be licensed, and regular medical examination be made of the inmates, because medical inspection without doubt tends to produce a false sense of security and is insufficient to prove the absence at all times of disease.

To have a better understanding with the keepers of these resorts, known to the police, they should be notified that inspectors from the Board of Health will make occasional visits at these houses for the purpose of examining inmates. These visits to be made at unannounced and irregular intervals. No certificates of good health are to be accepted whatsoever, or none given.

When an examiner finds one or more of the inmates ill with a venereal (contagious) disease, the house is to be placarded with a large placard with the one word, "Quarantined," printed in large type. If the keeper of the house or her physician reports the case before it is discovered by the examiner, the patient is to be given the alternative of going to the hospital or having the sign up.

After the quarantining of one of these houses in Detroit, reports of at least 20 cases of venereal disease were made in one week, with the request that the patients be removed to a hospital. Competent medical examiners and proper hospital accommodations are necessary for the above.

Is it a question of "what can not be cured, must be endured," or should we attempt to better the problem, for the nation that solves it will outstrip all others.

PIONEER MEDICAL JOURNALISM IN KENTUCKY.

By J. G. HENDRICK, Central City.

A few months past I contributed a number of excerpts from "The Western Lancet, Vol. 6, May, 1847. As they were published in the JOURNAL, therefore of some interest, I concluded to contribute excerpts from the July issue, 1847. *The Western Lancet* was a bi-monthly, published at Lexington, Kentucky, edited by Dr. L. M. Lawson.

"Article 1. Original Communications.—Procidencia Uteri, an inaugural dissertation submitted to the examination of the trustees, and medical faculty of Transylvania University for the Degree of Doctor of Medicine, on the 20th of January, 1847, by John Nash LeGrand, of Warren county, Mississippi.

Displacements of the uterus have been known to the medical profession since the days of Hippocrates. They result from mechanical violence, disease of the ligaments, sustaining the uterus, uterus itself, or from constitutional derangements. They are rarely, if ever primary affections, but the sequence of other diseased conditions. When from disease of the uterus or ligaments, the character of the suffering will be in accordance, when from violence the cause is apparent, when as sequence of disease of the general system the character of suffering will be as variable as the primary affections. Notwithstanding the amount of talent, industry, research, and investigation, have signally failed to cure them.

Procidentia uteri may be divided into three stages: First, the os uteri is lower in the pelvis; second, the uterus has descended still lower in some instances resting upon the perineum. In the third the uterus is precipitated from the pelvis.

The author enters upon a lengthy discussion of disease of uterus, and constitutional diseases bearing indirect symptoms in the uterus. I will give a few excerpts. It will be seen that he was materially influenced by theories at that time recently promulgated, that many ailments of the uterus are influenced by constitutional affections, and sometimes entirely reflex neurotic. Graily Hewitt of London in his exhaustive treatise on diseases of women issued in 1882 taught that constitutional ailments were prime factors. At the present day gynecologists realize the fact and direct treatment accordingly. The author says, "It is evident from consideration of the causes of procidentia, the general health preceeding, and accompanying procidentia, must be more or less impaired. It has striking, and intimate sympathetic relationship with the skin, stomach, brain, kidneys, bowels, and nervous system. They may appear to have consumption. A ease is given by Professor Dudley, patient had all the symptoms of phthisis pulmonalis. On postmortem examination no disease of lungs, abdominal viscera healthy. But the whole uterus, posterior walls of bladder, and front walls of rectum entirely destroyed. I am persuaded that physicians would succeed more promptly, and satisfactorily by directing treatment to the organ first diseased. Restore healthy condition of stomach, bowels, skin and nervous system. Investigation should be made with patient erect, to ascertain the degree of prolapsus, sensibility of cervix and os, heat, size and weight of uterus, relaxation of vagina and perineum.

TREATMENT.

The treatment relied on has been astringent injections, pessaries, recumbant posture, pads, cushions, and steel springs. I have derived no beneficial results from them in some instances injury. If the disease has a constitutional origin their general health has been restored, in spite of the treatment, the local affection has of necessity been relieved. Dr. Hamilton first attempted cure by producing adhesion of vaginal walls, this was abandoned. It is necessary to restore general health necessary to take the weight of the uterus from relaxed ligaments, rigid recumbant posture. She should be on carpeted floor of a large well-ventilated room, shoulders never raised till suspensory ligaments have strengthened to sustain the uterus, diet regulated, secretions and excretions attended to, amusement varied, her skin, body and limbs sponged daily with salt water, or with coarse towel saturated with salt brine well dried before use. Exercise is necessary, how? Direct her to roll herself from side to side of room as many times as her strength will allow, direct her to fasten her feet to stirrups of soft material tied to furniture, attempt to draw the article attached, then take stirrups in hands, exercise same way, twice daily or more, give as little medicine as possible. As to time taken from floor, six or eight weeks in mild cases; if long standing, several months or more than a year. Galvanism to loins, vulva, rectum, I augur well, will give it a trial, when ligaments are sufficiently strong, patient allowed on feet, or feet and hands. Exercise in open carriage, pelvis elevated above shoulders for several weeks safer, a hammock is an admirable mode of exercise.

Article 2. Remarks on a Peculiar Epidemic Fever in Miami County, Ohio.—By G. Volney Dorsey, M. D., of Piqua, Ohio.

The doctor describes a section of country which is level, low, and marshy, no drainage, but rich mouldy soil producing rank vegetation, much fallen timber, water bad for family use, of course intensely malarial. He says "The fevers of this region are not usually more severe or fatal than those of the surrounding country, have in some seasons presented peculiarities which are worthy of note. The month of June, 1842, I was called in consultation to visit a family where five persons were ill of this prevailing fever, one was dying, two scarcely expected to live. I copy from my note book the following symptoms. After the chill in the beginning of attack, there comes on severe vomiting, coldness of extremities, burning, and sense of weight in stomach, strong pulsation in epigastric region, rapid, feeble pulse, tongue with thick white fur, constipation, great difficulty in re-

lieving coldness of extremities, sinapisms, hot friction, blisters frequently in vain, matter vomited at first viscid mucous, but become bilious, assuming a peculiar greenish blue appearance, similar to a mixture of bile and indigo. After a few days continuance of symptoms accompanied with difficult and laborious respiration, frequent sighing, became dull and comatose, strong pulsation of carotids no increased heat of head, eyes dull and glassy, stupor and death closed the scene.

No delirium, epigastrum, right hypochondrium uniformly sore. Of the five in family mentioned four died in spite of treatment and advice of several physicians. I saw no more cases that season. The year 1843 the same time and neighborhood, the disease broke forth with severity. I was again called. Scarcely a family exempt. In several families from two to five cases, symptoms differed in no material respect from those of previous year. Instructed by unfortunate issue of cases previous year, convinced that inflammation of stomach existed, I resolved to use the lancet unspairingly. On first visit I bled every case, ordered to be repeated if obstinate vomiting recurred in my absence, it was repeated in several cases three or four times, blisters and cathartics employed, every patient recovered under these means. On Stillwater river the disease also prevailed. I recommended to the physician a similar course; it was almost uniformly successful, where neglected the issue was very generally fatal. Blisters to stomach, spine, over coeliac plexus, and endermic application of morphine were advantageous. Opium, by mouth, was not well borne, calomel and opium accustomed to reliance was not beneficial, in many cases hurtful. As soon as irritation of stomach had subsided patient free from thirst and burning. I used cold infusion of quassia and orange peel drank freely, and found beneficial. The disease prevailed in the infected district in 1843, several cases in 1844, no cases in 1845; during the warm weather of 1846 I met a few cases. The Western practitioner familiar with localities where the disease usually termed "sick stomach," or "milk sickness," is said to prevail will have recognized in the described symptoms supposed to indicate its presence, this was the common name given to the disease.

The existence of a disease communicable by drinking the milk, eating the butter and flesh of beef cattle is acknowledged in the West. This poison is restricted to particular districts various attempts have been made and are making to follow to its source this poison, it has been located in the water, earth and various plants. The rhus toxicodendron eaten by cattle will produce disease known familiarly in the

West as "trembles," how far this disease can be communicated to human has never been shown. In those districts where cattle are so affected epidemics frequently prevail, symptoms resemble effects attributed to "milk sick" to defy diagnosis. I have been unable to lay down any diagnostic or distinctive marks between the cases. The disease does arise in the human without introduction into stomach of poisoned food, a peculiar miasma has the power of giving the peculiar symptoms of this disease. May it not arise in the same way in cattle and from them transmitted by flesh or milk to man. Bilious fever becomes under circumstances so concentrated and virulent as to pass from infected to a healthy subject. Closest scrutinizing observation will probably determine the "milk poison," to be an epidemic fever. The lancet and epispastics are our most important therapeutic agents." The theory of Dr. Dorsey that "milk sick" was intense malarial infection or miasma as he termed, advocated by others became to be accepted. The compiler of these excerpts began the practice of medicine in 1868 at a village located on Green river at the confluence of smaller river and creeks, and lakes, the timber was being cut in the bottom lands for market, leaving the tops to decay on the wet ground, malaria was exceedingly rife, frequently the intensely epidemic type described by Dr. Dorsey with the symptoms, but the "milk sick" idea had been abandoned.

"Article 3. Open Scirrhus of the Cardiac Orifice.—Cure by B. Rush Mitchell, M. D., U. S. Navy.

"The annals of the profession, so far as I am acquainted, present but few authentic cases of cure of the disease. I thought the presented case might not be an uninteresting detail.

Mrs. W., married, age 48, of sallow, cadaverous hue, active habits, spare frame, came under my notice when attending physician of St. Louis City Hospital, she held office of matron. Her mind and body active, she, however informed me she had been subject to organic disease of stomach, an utter incapacity of passing into the stomach any solid food. The bolus would pass easily to a point corresponding to the cardiac orifice. After remaining from 1 to 10 minutes, pain was experienced, the bolus was ejected. Digestion of fluid was painless and perfect, its passing causing no uneasiness, upon which she had lived for years. She was attacked with severe dysentery at that time there were also thirty patients in hospital of typhoid grade. Her idiosyncrasy forbade opium, her disease was combated with calomel and krameria, a blister to abdomen, acto plumb,

port wine, wine whey, soon discovering periodicity directed quinine. She began to complain of pain of cardiac orifice, hyoseyamus was ordered but continued for only twenty-four hours at which time vomiting set in, ejections being glarry, tinged with blood, a few streaks of pus, shortly a copious dejection nearly capacity of the chamber, dejection wholly ill conditioned pust, yellowish white, or milky, slight consistence, odor powerfully intolerant. For three weeks dejections and ejections of same character and quantity continued, no food or medicine being retained, emaciation and loss of strength to render patient unable to help herself. Diagnosis by myself and Dr. Knox, ulcerating scirrhus of cardiac orifice, which was confirmed by consultation with Dr. Beaumont, late of the U. S. Army, and Professor Johnson, University of Missouri. Nitrate silver in pill, act. plumb. sulph. zinc, astringents, strong acids, counter irritation. Ox-gall, nutrient injections, sponging with whisky all unavailing, none of the remedies retained, instantly rejected. I devoted more time to Mrs. W., determined to employ the following mixture: Cupri sulphas. zi; spts. lavender comp. zi; tinet moschi, ziiii; aqua zzii. M. I directed a teaspoonful every two hours, first dose soon rejected, second remained fifteen minutes, given ten minutes after first; third dose wholly retained. I directed six doses be given. In the morning I learned all doses retained, dejections diminished in quantity and frequently, morphus-like, epigastric pain measurably subsided, allowed no food nor drink. Patient feeling much better, desired partridge meat to suck, allowed. The prescription continued every three hours. In 36 hours she took 120 grains sulphate of copper, the remedy was continued at longer intervals for two days, followed by a week's use of calomel and dandelion pills. Ten days from retention of copper prescription was able to sit up in sick chair, by accident she discovered the passage to stomach was free to largest bolus, seven months from illness in better health since young days. The ease, I think, is a remarkable one. To the combination of euprisulphus aided by the iron constitution the favorable termination is fairly ascribed.

In "Department of Reviews and Notices," Velpeau's Surgery, Von Behr's Anatomy, Wm. Lawrence on diseases of the eye, were noticed.

In Department American Summary, were a number of extracts from American journals. One from a paper by Lewis Shanks, M. D., ("*New Orleans Medical Journal*") several cases of dysentery, severe type, he used ice internally and externally, ice rubbed over en-

tire body, immediately dried, well rubbed with coarse towel, repeated for several days allowed patient same time to eat ice. Morphine, acetate of lead, blister and hot fomentations, injections, and occasionally the lancet were used." As many as nine extracts on the effects of ether as an anesthetic, giving record of deaths subsequent to use of ether.

The following is of some interest, "On the Cure of Phthisis by Exercise of the Lungs and by Fattening," by M. Bureaud-Rioffrey, *Comptes Rendus* T. xxiv, p. 11. Researchs and autopsies proved tubercules are inorganic, unassimilable foreign bodies, it is necessary to prepare the way by which they may be expelled. Exercise of the lungs may fulfil this indication, by strengthening and dilating bronchi. It is necessary to regulate and adapt respiration to the strength of patient and demand of pulmonary combustion. In repairing the waste we ought to endeavor to fatten to prolong life and change constitution and tuberculous diathesis." The fattening theory was revived by some not very many years past, but abandoned because the fact was evident that food of quality and quantity that could be digested and assimilated should be given. "The following is significant: 'Clinical Statistics of the Learned Profession,' (*Med. News*, London,) 'From a statistical document recently published in the *Moniteur*, it should appear that of all the liberal professions medical men furnish the smallest number of criminals, impossible to fix a fractional ratio as with other classes. Since the year 1829 not more than two physicians have been tried as criminals at the assizes. In the ten years from 1829 to 1839 there were tried in the various criminal courts, forty-one thousand six hundred and seventy male prisoners, above the age of twenty-five, among these thirtythree priests, thirty-three lawyers, seventy-five notaries, sixty-six tipstuffs, but not a single medical practitioner.'" It is with just pride and satisfaction that the medical profession can at the present date and for ages past refer to court records to sustain the assertion that no other profession, not excepting the ministry, furnishes fewer criminals.

Editorial Department.—"We learn from the *South. Jour. of Medicine and Pharm.* that Dr. J. Lawrence Smith, one of the former editors of that journal, has since his arrival in Constantinople, been appointed Geologist and Inspector of Mines to the Sultan of the Ottoman Empire."

"The National Medical Convention—The National Medical Convention convened in Philadelphia on the 5th May last (1847) and remained in session three days. A large number of delegates were present, although not

representing equally the different parts of the union. The following officers were elected: President, J. Knight, of Conn.; Vice Presidents, A. H. Stephenson, New York, Geo. B. Wood, Philadelphia, A. H. Buchanan, Tennessee, J. Harrison, Louisiana; Secretaries, R. D. Arnold, Georgia, A. Stille, Philadelphia, F. C. Stewart, New York. At the close of the session the convention resolved itself into the "American Medical Association." The following officers were elected for the Association: President, Dr. Chapman, Philadelphia; Vice Presidents, Dr. Knight, New Haven, Dr. Stevens, New York, Dr. Moultrie, South Carolina, Dr. Buchanan, Tennessee; Secretaries, Dr. Stille, Philadelphia, Dr. Dunbar, Baltimore; Treasurer, Dr. Hays, Philadelphia. Baltimore was designated as the place for the next meeting." The session of the American Medical Association this year will be the sixty-seventh if the physicians of the northern states convened each year during the Civil War from 1861 to 1865 or even some years after the war terminated physicians of the southern states did not attend.

Dr. Hamilton, of East Liberty, Ohio, makes the following remarks in relation to the use of quinine in malarious fevers of that locality. "This district is malarious. During the past season the fevers assumed a congestive character chiefly intermittent, unless checked promptly by free use of quinine, proved fatal. A good many cases assumed gastro-enteric form, with vomiting of blood, large evacuations from bowels, resembling beef brine, which prostrated patients in a few hours. The treatment was sulph. quinine doses 5, 10 or 15 grains combined with morphine or opium every two hours, brandy almost ad libitum. This practice was successful, not losing one patient where it was promptly adopted, where not used or used sparingly, the disease was very fatal. The prejudices against the use of this Sampson of the *Materia Medica*, are fast giving way, fear of its administration when there is headache or a little fever is beginning to vanish."

The compiler of these excerpts located on Green river in 1868 and at intervals the section of country was visited by epidemics of intermittent fever of the type described by Dr. Hamilton, termed "congestive", quinine was the sheet anchor. As he says, quinine in large doses given in time was successful. But the physicians were frequently too late reaching patients, therefore many died. Physicians in the same localities now do not encounter such epidemics, the country is cleared, and cultivated, and drained, and protection

from mosquitoes by screens common. During these epidemics practice was laborious and trying, pathetic to devotees of the profession.

COUNTY SOCIETY REPORTS

Caldwell—The Caldwell County Medical Society met in the city hall at Princeton on Tuesday afternoon, April 14, 1914, with the following members in attendance: L. J. Spickard, J. N. Bailey, P. R. Shelby, C. J. Pollard, J. M. Moore, I. Z. Barber, W. L. Cash.

The minutes of the last meeting were read and approved, and a report of the financial condition of the society was made. Upon motion President Spickard appointed a committee to examine and audit the treasurer's books.

The scientific program was then taken up, and C. J. Pollard read a very interesting and instructive paper on "Some Newer Preparations," and called especial attention to the use of anti-typhoid vaccine, phylacogens and pituitrin, and protested against the indiscriminate use of the last named preparation. There was a general discussion of this paper, and the essayist was complimented for the presentation of the subjects.

The society adjourned to meet again on the second Tuesday in May.

W. L. CASH, Secretary.

Henry—The Henry County Medical Society met at the office of the secretary, in New Castle on Monday, March 30th, 1914.

In the absence of the president and vice president, the meeting was called to order by the secretary.

W. B. Oldham was chosen as temporary chairman for the meeting.

A. M. Zaring, having moved to St. Mathews, which is out of the county, it was decided to elect a president to fill the vacancy made by his absence.

Everett Morris was unanimously chosen as president for the year, 1914. Upon being elected president of the society, Dr. Morris resigned as delegate and Jno. C. Hartman was elected delegate with O. P. Chapman as alternate.

Upon motion it was decided to formulate a program for the entire year as to papers to be read before the society and the following physicians are appointed:

Papers for April meeting, Jno. C. Hartman, E. E. Howard and Thos. J. Hower; for May, A. P. Dowden, Webb Suter and Louis Coblin; for June, W. B. Oldham, O. P. Chapman and O. M. Humston; for July, E. E. Biekles, C. J. Renfro and O. P. Goodwin; for August, W. L. Nuttall, F. D. Hancock and W. J. Morris; for September, W. W. Leslie; C. R. Johnson and W. F. Asbury; for October, Curtis Hancock; O. M. Humston, A. P. Dowden; for November, Jno. C. Hartman, John

Murdock and J. R. Guthrie; for December, Everett Morris, C. R. Martin and A. G. Elliston.

The above named physicians are requested to complete their papers two weeks prior to the date of reading and forward them, typewritten, to the secretary, who will read them if the writer is unable to attend the meeting.

Paper on "Constipation," was read at this meeting by **W. L. Nutall**. The paper was discussed by nearly all members present.

There being no further business the society adjourned to meet April 27th, at 1 o'clock P. M.

OWEN CARROLL, Secretary.

Henry—The Henry County Medical Society met at the Court House in New Castle on May 27th, at 2 o'clock P. M. Meeting called to order by **A. P. Dowden**, President pro tem.

Present, **W. B. Oldham**, **O. P. Chapman**, **E. E. Beckers**, **W. L. Nuttall**, **Jno. C. Hartman**, **E. E. Howard**, **Webb Suter**, **W. J. Morris** and **Owen Carroll**.

E. A. Guillion, Editor of the Henry County Local and County Judge **Luke Kavenough**, were also present, as was **Dr. John McDonald** of the state of Washington, who gave the society a nice talk and entered into the discussion of the papers.

E. E. Beckers read a paper on the subject "The True Physician."

J. C. Hartman read a paper on "Infantile Diarrhoea."

E. E. Howard read a paper on "Aneurisms." The papers were discussed by all present and a generally good meeting was held.

A. P. Dowden, **Webb Suter** and **Lewis Coblin** are assigned for papers at the May meeting.

On motion, meeting adjourned to meet May 25th.

OWEN CARROLL, Secretary.

Warren—The Warren County Medical Society met in the Council Chamber with the following members present: **Drs. Lillian South**, **Heiser**, **A. T. McCormack**, **Freeman**, **Strother**, **Arnold**, **Wright**, **Moss**, **Rogers**, **Huddle**, **Cartwright**, **Drake**, **Blackburn**, **Francis**, **Marks**, **Neal**, **London**, **Keen** and **Rutherford**.

The program of the meeting was the "Etiology of Rheumatism" by **Dr. London**.

"The Treatment of Rheumatism," by **Dr. Keen**.

"The Relation of Rheumatism to Tonsillitis," by **G. E. Townsend**.

The discussion to be opened by **Dr. Lillian South**.

As there were not present at the opening of the meeting, any of the essayists, a motion was made and carried that we have a report of cases.

H. P. Cartwright reported a case of rupture of the paranehyma of the lung with profuse hemorrhage and pneumo-thorax.

B. S. Rutherford reported a galloping rhythm of the heart and explained its mechanism.

Both these cases were interestingly discussed by the members of the society.

Finis London read a very excellent paper on "Etiology of Rheumatism," which was followed by an interesting talk by **Dr. Keen** on the treatment of this disease.

G. E. Townsend, who was to have read a paper on the relation of rheumatism to tonsillitis, was not present.

L. H. South opened the discussion which was followed by a general discussion by the members of the society. There being no further business, a motion was made and carried to adjourn.

B. S. RUTHERFORD, Secretary.

Warren—The Warren County Medical Society met at the Council Chamber on December 10, 1913, with the following members present: **Drs. Grubbs**, **Stone**, **Briggs**, **Arnold**, **Huddle**, **Helm**, **H. P. Cartwright**, **F. D. Cartwright**, **South**, **Townsend**, **Hall** and **Rutherford**.

There being no program for this meeting, a motion was made and carried that the house proceed to the election of officers for the ensuing year.

B. S. Rutherford was elected secretary pro tem.

Drs. Stone, **Grubbs** and **Briggs** were nominated for president, after which the house proceeded to vote by ballot. **Dr. Stone** receiving the majority of votes cast was declared elected.

J. H. Strother was nominated for vice president. There being no other nominations, the secretary was instructed to cast the vote for **Dr. Strother**.

Nominations were then declared in order for permanent secretary. **Drs. Arnold** and **Rutherford** and **Briggs** were nominated. The house voted by ballot. **Dr. Rutherford** receiving the majority of votes was declared elected.

Nominations were declared in order for a delegate to the State Meeting. **Drs. Hall**, **H. P. Cartwright** and **Arnold** were nominated, after which a ballot was taken and **H. P. Cartwright** receiving the majority of votes was declared elected.

G. E. Townsend was nominated and elected as Councilor.

H. P. Cartwright reported an interesting case which was discussed by the members of the society.

There being no other business before the house a motion was made and carried to adjourn.

B. S. RUTHERFORD, Secretary.

Paralysis, General. Treatment. Hexamethylenamine, gr. x (0.6 Gm) thrice daily, found effectual in preventing retention of urine and avoiding necessity for catheterization.—**Baird**.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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W. F. BOGCESS

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EDITORIAL.

THE COMMUNITY PHYSICIAN.

In further consideration of this important subject, it is important that we clearly understand what is meant by a community and then consider the functions and opportunities of a community physician.

A community, for our purposes, is a settlement within somewhat definite boundaries containing from three to six-hundred families, who can be made to understand that the practice of medicine has reached that point in its development where scientific supervision of health and living conditions will prevent about seven-tenths of the sickness and nearly one-half of the deaths which are now occurring, prematurely. Such a community must understand that the physician who will devote his time to systematic prevention of disease is entitled to a reasonable compensation for such services. It has been suggested that where three hundred families compose a community that they agree to each pay the community physician \$10 a year for his services. These services will include such supervision of their living methods, such education along health lines as will keep the individual composing it from being sick, as far as possible, and in case of sickness, the physician would attend the cases. In such an arrangement, it will be seen that it would be to the interest of the doctors to prevent sickness and that this would rapidly become the important part of his work.

On the other hand, looking at it from the standpoint of the physician: It would be his first purpose to create such a health conscience as would prevent any one having a preventable disease from spreading the seed of it to others. He would supervise the building of sanitary privies at every house in his community; he would teach the tubercular to ex-

pectorate only in the containers that could be burned; he would so actively supervise the emptying of vessels containing typhoid stools into sanitary privies or other fly proof, watertight, disinfecting vats as would effectually prevent this disease. He would see that every child was vaccinated by the time it was six months old and re-vaccinated at the necessary intervals; he would inspect the school or schools in his district frequently, thus discovering defects or disease at their beginnings rather than after thoroughly developed. He would carefully supervise the isolation of contagious diseases; he would talk to the mothers not only about the kind of lunches taken to school but about improving both the variety and quality of the food supplied to the workers of the household. He would help supervise the screening of kitchens and dining rooms; in other words, it is contemplated that the community physician is, in a large measure, taking the place that was once occupied by the family physician, becoming the leader in his community and knowing the living methods of his various families in such a way that he could help them to the best results in good health and long life.

Such development as this is surely coming and it would be well for you to begin to discuss it with the leaders in your community and to consider it from every standpoint that it will find you prepared when called upon.

DR. D. B. WILCOX.

It is with sincere regret that the JOURNAL announces the death of Dr. D. B. Wilcox, for many years secretary of the Carter County Medical Society. As a friend and a physician his neighbors in Carter County will miss him, but as a leader in the medical organization of the State, his loss is well nigh irreparable. The State Association has been very fortunate in finding in most of the counties a county

secretary who would undertake the arduous duties of this office with real knowledge as to its difficulties and with a real purpose to get everything possible out of the development of a real county society. The success of the county society can be measured by the effectiveness of the county secretary. The Carter County organization is a good one because of Dr. Wilcox's effectiveness and we trust it will be as fortunate in the selection of his successor.

AN EXHIBIT WORTH WHILE.

The H. K. Mulford Company will have a moving picture show at the Atlantic City session of the American Medical Association in the Hotel Chalfonte, which will show the different processes employed in the production of their biological products. This exhibit will be particularly interesting to the Kentucky doctors who attend the session of the American Medical Association because through an arrangement with the Mulford Company, our State Board of Health is supplied with Mulford's biological products excepting diphtheria antitoxin.

The H. K. Mulford Company deserve credit for taking advantage of this new manner of displaying their latest methods.

A. M. A.

The annual meeting of the American Medical Association will be held at Atlantic City, New Jersey, beginning June 22nd. This will be a most important and enjoyable meeting and it is hoped that as many of our members as possible will arrange to take advantage of it.

Atlantic City in June is delightful and it will be an especially valuable trip if you will take your wife along and let her get the ocean breezes and the stimulation to be gotten from the change in air and scene.

MEDICAL EXAMINATION.

The examination for a certificate to practice medicine will be held in the auditorium of the Henry Watterson Hotel in Louisville, beginning June 15th, next, and continue for three days. It is important that this be borne in mind by those of our doctors who contemplate moving to other states, whose certificates were issued without examination. Many states require an examination in Kentucky before they will grant reciprocity.

SCIENTIFIC EDITORIALS.

AS TO THE ABORTIVE TREATMENT OF SYPHILIS.

Attempts to abort syphilis by the way of excision of the chancre, has been tried long ago. Such attempts may be traced to the times when syphilis was not so well understood as it is now. Even at this time this momentous question had its advocates and antagonists. According to the statistics of Crivelli, out of 454 cases of excision of chancre, 104 of them were absolutely successful; according to Ehler's, out of 584 cases of hard chancre, 137 were successful after the chancre had been excised. This method was then strongly condemned by some syphilographers, and though the great Ricord stood for excision, his pupil, Fournier, was antagonistic to this theory. I remember about two years ago, at the meeting of the A. M. A. at Atlantic City, in the symposium on syphilis, in discussion, this question of excision was brought up again. From my own conviction and thinking I was on the side of those who advocated the excision of the chancre. The chancre, to my mind, is a local infection and local manifestation on the part of the body to rid itself of the invaded organism. Looking over the literature on syphilis, many cases were reported to have been aborted by either excision or thorough cauterization.

Jai, Lang and others have strongly advocated excision method in abortion of syphilis. In the last decade when the study of syphilis was more developed (since the discovery of spirochetæ, reaction of Wasserman, etc.) the question of aborting syphilis received a new light. Thanks to the very simple method of Burri, it was possible to find the pale spirochetæ the first few days of the appearance of the chancre. With the discovery of Wasserman test it was possible to tell whether syphilis was aborted in the system and whether one or the other method of the treatment was effective. Since we can make by the present methods the diagnosis of syphilis in the earliest stage, we should then be able to combat the disease with the first appearance of the hard chancre.

Klingmueller used the method of excision, complimented by salvarsan, in 56 cases of hard chancre with negative Wasserman reaction, and 60 cases with positive reaction. He received better results from mixed treatment than from salvarsan alone. Hecht also experienced great success in aborting syphilis with mixed treatment. Neisser advocated the early excision and thorough cauterization in conjunction with administration of mixed treatment. Stern, Scholtz and many others

had the same experiences. In Scholtz's 70 cases of indurated chancre, under early treatment of salvarsan and mercury, 60 cases remained with negative Wasserman.

Voss, of Halle, advocates early excision of the chancre or application of Paquelin cautery and administration of salvarsan and mercury. Earing followed this method successfully and in one of his cases had a reinfection a few months afterwards. Jadassohn insists upon early abortive treatment of syphilis and adds, that any physician that is going to wait for the manifestation of secondary symptoms after the hard chancre has appeared, is undertaking a great responsibility and is doing his patient a great injustice. Hallopeau, who is regarded as the most original authority on syphilis, in cases of hard chancre, injects in the neighborhood of the chancre, heetin (an arsenal preparation), with the addition of novocain, then, he gives mercury and iodine.

In the last two congresses in Rome and London, the best authorities on syphilis, advocated early abortive treatment. The only two noted syphilographers that were strongly opposed to abortive or early treatment of syphilis were Mulzar, of Strassburg, and Gaucher, of Paris. They claim that early abortive treatment, complimented by salvarsan, is liable to prolong the course of syphilis. But any new idea always has its antagonists.

In going over the literature in regard to abortive and early treatment of syphilis, particularly since the discovery of salvarsan, the preponderance of opinion is in favor of it.

We are also inclined to follow the abortive treatment. Since syphilis is a chronic systemic disease, requiring from three to five years, and longer, of active treatment, would it not be preposterous not to adopt a treatment that would cut its course to a few months? Would it not be a blessing if we could shorten the duration of typhoid fever to a few days, as we may expect it will soon be done?

Syphilis, it must be remembered, has other phases. Clinical and experimental data show that in the beginning it is purely a local disease. The process of it may be summed up as follows: After a suspicious coition, the spirochetæ are deposited on an abraded or irritated skin; nature, trying to protect itself against the invasion of said spirochetæ into the deeper tissues, sends out protective fluids which envelop the spirochetæ, trying, so to speak, to choke the invading enemy. The result of this process is the formation of the chancre. Why not eradicate this chancre, thereby aiding nature in its previous efforts? If we do not undertake this step, the spirochetæ in the majority of cases, overcomes the

effort of the protective fluids and succeed in entering the deeper tissues. Once we allow the primary stage to go on into secondary, and treat the secondary stage, we can not say that we initiate the abortive treatment; we may call it early treatment but not abortive since under abortive treatment we have to deal with the purely local condition. Once we get a general or systemic condition, giving positive Wasserman reaction, we can not call such treatment abortive. To us, when we speak of abortive treatment of syphilis, only those cases count which have only a local primary manifestation of a sore in which are found pale spirochetæ of Schaudin, which give a negative Wasserman.

M. L. RAVITCH.

WATER.

In pre-historic times the astronomers and geologists tell us that space consisted of a vast nebula of self-luminous, gaseous matter very highly heated and that as a result of condensation and cooling the earth took form. This geological view, differing as it does entirely from the theological one, maintained that at that time water was dissociated or separated into its two gases, hydrogen and oxygen and owing to the earth being at a temperature in excess of 3,632 degrees F. these gases could not combine to form water and as the molten state of the earth probably maintained a temperature 6,000 degrees C. a considerable time had to elapse before it was finally cooled sufficiently for the water to form first as steam and then to condense to the liquid state. Up to one hundred and thirty years ago the general view held was that of Thales, one of the Seven Wise Men of Greece, who said "Water is the element, the principle of things," but it was in 1718 that Priestly and Lavoiser showed that it was composed of two gases. Later it was found that it could be decomposed by electrolysis and the two gases measured. Hence, it will be seen that water at last in the form of its elements is older than even the earth itself and water at least can be said to have existed since "the beginning." Water may exist in three states; *gaseous*, *liquid* and *solid*, but this is not remarkable because it is possible to transform nearly every substance into these three states, but what is really interesting in this regard, in water, is that it can be accomplished within the range of ordinary temperatures, which is rather extraordinary.

To the *gaseous state* belongs steam and atmospheric water vapor. The absence of atmospheric water vapor, which is usually found in arid desert regions, no clouds are formed, there is no rain and as a rule such a

place is not only devoid of life but is practically uninhabited. At the opposite extreme is to be found the disagreeable climates that are hot and humid and in which the atmospheric vapor is tremendously increased.

Money may make the mare go, but certainly steam practically makes the world move. What would we do without the wonderful motive power of this agent? From the tiny infantile mechanical toy that it moves to the terrific explosion of such a volcanic mountain as Krakatoa seems a wide step and yet it is this tremendous range of power that makes steam such a remarkable agent. Steam is that condition of water which is stable at temperatures of 100 degrees C. at an ordinary atmospheric pressure. *Liquid water* which is the most interesting and important of any form is really "*wet water*." In this form it is the most fascinating of all chemical substances, besides being the most useful. It forms 75 per cent. of the human body and without it nothing could live; it covers two-thirds of the earth's surface to an average depth of 12,500 feet; it is the best solvent known; is essential to all chemical action and without it nearly all branches of science would be at a stand-still. It occurs as rain, fog, dew, river and ocean water, spring water, etc.

When the vapor of the atmosphere condenses around small particles of dust in the air, clouds are formed or if very near the surface a fog. If the small particles run together it will fall as rain. Dew is nothing more than water that has condensed out of the atmosphere onto cold objects. Pure water is odorless, tasteless and in small quantities colorless, transparent, liquid; in large quantities it becomes blue in color and very near opaque. It never occurs pure in nature, its nearest approach being rain water after it has rained for sometime and the next nearest melting snow. It can be purified by distillation, one distillation being enough for ordinary purposes, but in many chemical and particularly for intravenous work it should be re-distilled. When re-distilled it is practically a non-conductor. It is only slightly compressible.

Under a normal pressure water boils at 100 degrees C. It is a powerful refractor of life. Many substances when dissolved in water lower its freezing point that is one reason why salt is used in the freezing mixture when making ice cream. The stirring serves two purposes; bringing all parts in contact with the cold and causing more rapid crystallization of the contents. If water is perfectly still the temperature may be lowered several degrees below the freezing point, but a jar will cause it to freeze immediately. Be-

sides lowering the freezing point, dissolving a substance in a liquid also raises the boiling point.

When an acid, base or salt is dissolved in water, the molecules of the substance are split up in two parts, each part being charged with equivalent quantities of electricity. These charged particles are called *ions*. A compound which yields ions is called an electrolyte, all others such as sugar, for instance, are called non-electrolytes. Of all common liquids, which dissolve substances, water has the highest power. Water is never a side issue in chemical reaction, it is really the most important and the fundamental thing in them.

When a soluble solid, no matter how great its specific gravity, is placed in the bottom of a vessel and covered with water, it will in time diffuse through the entire liquid until it is homogenous, though the force of gravity is pulling continually against it endeavoring to keep it at the bottom. Solid water consists of snow, hail, frost and ordinary ice. *Snowflakes* are assemblages of minute crystals of ice from the aqueous vapor in the atmosphere. They always assume a hexagonal shape. Snow is only white to the eye because of its great refractive power compared to the crystals. Under the microscope it is transparent. It forms when a cold enough wave passes over a moist atmosphere condensing the water; it then crystallizes.

Hail, on the other hand, is formed when rain passes through a region of atmosphere sufficiently cold to freeze it. Just as dew condenses out of the atmosphere on a summer night or a winter night when the temperature is low enough, frost forms. *Frost* has played and continues to play an important role in changing of the earth's surface.

Water, when it cools, contracts until it reaches a temperature of 4 degrees C., and then it begins to expand slowly at first until it very nearly reaches 0 degrees C., and is about to freeze then it increases very sudden in volume. Water is used as unit for specific gravity measures. In freezing water gives off a very large amount of heat, so that we can understand why there is a warning up just before a snow storm.

Ice is often seen to contain dirt. If the water was stirred while freezing so that the crystals would separate small they would be very nearly pure. Certain compounds have the power to crystallize, with a greater or less amount of water. The "water of crystallization," as it is called. Some chemical substances, like calcium chloride if allowed to stand in the air will attract the moisture and become wet; they are said to be *deliquescent*, others like sodium sulphate tend to lose their

water of crystallization on standing open to the air; they are called *efflorescent*. Few people know what an enormous percentage water plays in the nourishment of the human body. A human body weighing 150 pounds contains about 113 pounds of water and requires daily for its sustenance, either as a liquid or combined with food, 5 1-2 pounds of water, this equals more than one-half gallon. Volumes have been written of the effects of water as a corrosive agent in geology, under the action of frost, rain, waves, rivers, glaciers, lakes, oceans, subterranean waters, etc., both upon the interior and exterior of the earth.

It has seemed to the reviewer that so few of us in the pressure of the modern practice of medicine realize the many inherent values of water, nor do many stop to reflect upon its powerful potency as a therapeutic agent, internally and externally. It has therefore seemed interesting and pertinent to review the values of water per se. To enumerate its therapeutic activities in merest outline would require more pages than can be devoted to a scientific editorial.

CURRAN POPE.

THE INFLUENCE OF DIET IN SKIN DISEASES.

While the importance of diet has long ago been considered an influential factor in general practice, it is only in the last few years that it has been found to be even more so in skin diseases.

It was the Vienna School that held most all dermatoses as purely local affections of the skin. Vienna School's opinion or rather dictum was followed for a long time. In the last decade a reaction has taken place, and the theories, so long held by the Vienna School, were doubted. New ideas sprung up and the causes of a good many skin diseases previously taught to be due to external influences, were found to be due to metabolic disturbances. Bouchard was the first man to teach us the importance of auto-intoxications, particularly those arising from the intestinal tract. The amount of the indican in the urine corresponded with the amount of intestinal putrefaction. Diet of course played a great role in production of putrefaction as was often ascertained. I think it was Lichenstein, then Sobolew, and in our country, White, that have found the prevalence of indicanuria in skin diseases induced by faulty diet. After extensive experimentations it was found that in many dermatoses the skin condition improved or got worse again with the state of the gastro-intestinal tract.

Every pediatricist and general practitioner knows well that an unsuitable diet may be the cause of skin affections among children in the

first years of life; in adults, on the other hand, the diet may not have such an apparent influence.

Eczema of seborrheic type in healthy children very often is the result of over-feeding, and over-abundance of milk fat is the most obnoxious agent. This over-abundance of fat enters the system as a foreign protein and causes anaphylactic reaction, terminating in eczema. In such cases it is advisable to limit the quantity of milk feeding, particularly rich milk, and instead give them different kinds of soups, buttermilk, fruit juices and cooked fruit which will be found both grateful and useful. Eggs are not well tolerated by children suffering from eczema as they may act as a foreign protein and cause the same anaphylactic reaction as milk fat does.

Finkelstein's opinion that eczema in children is caused by the accumulation in the organism of sodium chloride which acts hygroscopically, causing the skin to ooze or to form urticarial eruption, is rather speculative and erroneous. It may work well in a few individuals, but experience teaches us that the diet of salt-poor milk is surely injurious. Bruch, who has made extensive experiments in child-feeding, has insisted that Frankelstein's idea is wrong. In his timely and practical article in the *Monatsschrift für Kinderheilkunden*, for 1909, he showed that by enriching the organism with sodium chloride eczematous processes were greatly improved, while washing out the salt, would make the conditions worse.

A strict and limited diet is, anyhow, permissible and useful in well-fed children. In addition to this, local treatment is a very important factor. The bad results, reported from local treatment of the skin of nurslings, is rather rare. And the rare cases are the result of unscientific and careless local treatment.

A strict limitation of meat diet has been found useful in a great many cases, particularly in strophulus in infants; while in cases not based upon intestinal toxemias, the diet has little influence.

In skin diseases of adults, you can expect much from a certain diet regime. Certain cases of pruritus, of urticaria, dependent upon idiosyncrasy to certain foods, are, of course, amenable to treatment by changing the food. In acne vulgaris it may be found, that ingestion of fatty material is injurious, particularly, since such material is absorbed and deposited in the sebaceous glands. In Rosacea, agents that cause flow of blood in the face, such as coffee, tea and alcohol, are very injurious. The influence of diet in psoriasis has been found a very important factor in causing the latter disease. In my editorial on

the "Etiology of Psoriasis," the reader will find that diet plays an important role as a causative factor in this disease.

In looking over the long list of skin diseases and in seeking their causes, we cannot help admitting the fact, that diet in a great many cases is quite an important factor.

M. L. RAVITCH.

ORIGINAL ARTICLES

CURRENT MEDICAL EVENTS.*

By J. T. REDDICK, Paducah.

Our secretary asked me at the last meeting of the society to prepare a paper for this meeting on the newer things in medicine. The very newest thing is a news item sent out from Chicago under date of March 6th, and published in the daily papers. I quote the article:

"Dr. G. Frank Lydston announced last night at a meeting of the Chicago Medical Association that he had successfully transplanted the generative gland of a dead person to the body of a living man. Dr. Lydston declared that when he had been unable to find a subject willing to undergo the operation he had made the transplantation upon himself.

An operation performed January 10th, 1914, he said, seemed to have been successful. The gland was taken from a youth of 18 who had been dead seventeen hours.

Dr. Lydston said if the operation should prove a permanent success it may be a new remedy for Bright's disease, hardening of the arteries and ailments due to premature senility. The surgeon said he had been unable to find any record here or in Europe of such an operation ever having been performed.

Dr. Lydston also said he had implanted in a woman of 59 years the generative organs of a woman of 17 years, who had been dead from violence twelve hours. This operation, he said, had been performed too recently for him to predict results. The wound, however, he declared, was healing rapidly, and the operation gave evidence of being successful."

The next newest thing in the way of medicine is another newspaper article sent out from Cincinnati just a few days ago. As yet we have seen nothing in medical literature to corroborate these articles and as a rule physicians are slow to accept these newspaper statements until we have further confirmation or proof of their genuineness. However, the very high professional character of the surgeons quoted and the ethical standing of the gentlemen, inclines us to give these state-

ments much credence. I also quote the article sent out from Cincinnati:

"A discovery by which surgery is made painless, after, as well as during operations, was made public here by Dr. Chas. A. L. Reed, who, in his demonstration at the Cincinnati General Hospital, declared that the era of painless surgery had at last dawned. He has used the method successfully in abdominal cavities and in the removal of cancers and tumors. He related the case of a very fleshy woman on whom he had operated for conditions which under old and yet prevalent methods would have caused great agony. Instead, she did not know that she had been operated upon; awakened immediately without pain or sickness, asked for the newspaper and innocently arranged to go to hear Tettrizza singing that evening, when told what had been done. She went home at the end of three weeks without even having had a twinge of pain. Dr. Reed then demonstrated the method on a patient from whom he proceeded to remove several tumors and some of the bodily organs. She was awakened immediately after the operation entirely free from pain. Dr. Reed calls the method 'Anocithesia,' which means without fear or pain."

ABDERHALDEN'S TEST FOR PREGNANCY.

One of the newer things in medicine, and one that is much discussed at the present time is Abderhalden's test for pregnancy. It would require too much of your time to go into a full discussion of the preparation of the material for the test, and it would require a careful study on the part of any one to understand it. I would not be qualified to give you anything like a comprehensive description of the test without a more extensive study of the matter. Abderhalden has performed more than two hundred tests. "Schlimpert and Heney examined 316 cases. In 39 non-pregnant cases all gave negative tests. The sera of 28 pregnant women all reacted positively, even one who had gone over her period but four days. Ekler had constantly negative results in 25 non-pregnant individuals, while in 37 pregnant women he always obtained the reaction. Most of his pregnancies were in the first week; four were ectopic pregnancies and six were incomplete abortions¹."

A NEW LABORATORY TEST FOR CANCER AND SARCOMA.

Dr. T. G. Davis, in *California State Journal of Medicine*, Nov. 1913, says: "The urine should be carefully collected, fresh. No preservative should be used except that when it is impossible to make immediate examination. Hydrochloric acid in the proportion of one part to ten of urine may be added, this being

*Read before the McCracken County Medical Society

the proportion used in the test. Select a flat bottomed flask of about six fluid ounces capacity, with a narrow neck, that the ether may be brought up into it and easily seen and separated. To 100 ccm. of urine in the flask add 10 ccm. of hydrochloric acid. Heat over a slow fire until ebullition begins; turn out the fire and allow it to cool slowly for a time, after which cooling may be hastened by immersion in water. When cold add 30 ccm. of ether. Cork, tying the cork to prevent evaporation. Turn the fluid upside down several times during the six or eight hours required to complete the test. Avoid hard shaking which interferes with separation of the ether. While in cases of pronounced or extensive cancer the ether will acquire a markedly red color in as short a time as twenty minutes, he has found six or eight hours necessary for the complete extraction hemo uro-chrome by the ether. The author claims the test will give evidence of the presence of cancer before it can be seen or determined by palpation or any other method. He claims the test has proven positive in a large percentage of cases.²²

The medical world is now eagerly watching for every thing which will throw any light upon the early recognition and etiology of cancer, and this becomes necessary from the fact that the number of cases are rapidly increasing. Frederick L. Hoffman, statistician for the Prudential Insurance Company, in an address recently delivered, states that cancer is becoming more prevalent in the United States every year, and that now its death toll is greater than that of tuberculosis. In the United States the death rate per annum is 75,000; for the civilized world, nearly half a million. Among men between the ages of 45 and 64 the proportion of deaths from cancer is 7 per cent., among women 16 per cent. Dr. Willingham gave this society a good paper a few weeks ago along the same lines as this paper and spoke of the treatment of cancer by radium.

PITUITARY EXTRACT IN OBSTETRICS.

Pituitary extract is quite well established in medicine, but as it is one of the newer things and a very potent remedy, capable of doing much good, there is danger that we may become over-enthusiastic regarding it, from the very optimistic advertising circulars sent out by the manufacturing houses, and do harm by its discriminate use. From some of the advertisements we are led to believe that it is safe to use at any stage of labor.

Having had some experience with the drug and having kept well up with it in the hands of others who have had a much larger experience, I am forced to the conclusion that we

ought to be just as careful in its use as with any of the active drugs.

The pituitary gland is divided anatomically into three parts, the anterior and posterior lobe and the infundibulum, but physiologically it seems to be divided into only two parts; the anterior lobe having one action, the posterior lobe and infundibulum another. The anterior contains some unknown substance which is absolutely necessary for the life of an individual. The posterior lobe and infundibulum, on the contrary, are not indispensable to life, but contain some principle which has a marked physiological action as a vaso-constrictor and uterine stimulant. To the best of my knowledge, there are on the market to-day, only three extracts of the pituitary gland, two made by American and one by a foreign firm, and all of them from the posterior lobe and infundibulum³.

The remedy is put up in ampules, the dose being 1 to 2 cc. Edgar has given 4 cc. The remedy should be given by intramuscular injection. I have never observed any local reaction from its use or any more pain than from any ordinary hypodermic puncture. I began its use about one year ago, and will give you briefly my experience taken from my obstetrical record.

Case I. Lina H., age 40. Para II. Strong, muscular, colored woman. Labor began at 5 a. m., pains slow, short, and inefficient; cervix soft and dilatable, roomy pelvis. 1 cc. pituitrin at 8:45, pains strong and regular in 7 minutes, and child delivered in 15 minutes.

Case II. Bessie W., age 22. Primipara. Labor slow, pains inefficient, cervix soft. 1 cc. pituitrin, pains hard and regular in 8 minutes, but had to deliver with forceps.

Case III. Marie T., age 17. Primipara. Began having pains at 6 p. m. I was called at midnight. Pains slow, os slow dilating. Pains stopped at noon, began again at 1 p. m. Os about size of dollar but soft and dilatable. 1 cc. pituitrin, pains hard in ten minutes and labor soon complete.

Case IV. Dinkie B., age 30. Para VIII. Strong, healthy colored woman, short and fat, had been in labor 6 1-2 hours, pains slow and inefficient, os about four fingers dilated, cervix thick and hard. 1 cc. pituitrin. Pains hard in ten minutes and very large child delivered in 22 minutes, no lacerations.

Case V. Bessie G., age 34. Para III. Pains inefficient, cervix dilatable. 1 cc. pituitrin, in few minutes hard and rhythmic pains and labor terminated in short time.

Case VI. Drusilla P., age 30, para VI. Membranes ruptured before I arrived and all the liquor amnii had escaped, child high up and could hardly be felt by finger and held in that position by a short cord wound around

neck. Cervix dilatable and pains slow, short, and doing no good. 1 cc. pituitary liquid, pains hard in six minutes and child delivered in a short time.

This is the extent of my experience with pituitary extract, which has been altogether very favorable and indeed almost magical in some cases. I might have used it oftener but I do not believe it has any place in normal labor, and my cases were well selected cases, only one of which, case IV, was there any rigidity of cervix. In that case the rigid cervix, which was about four fingers dilated, softened rapidly under the regular, hard pains.

In my opinion pituitary extract is of unquestioned merit in obstetric practice, but should not be used in undilated cervices, for we can never tell when we have a friable, diseased cervix, and we can not tell how hard the pains are going to be, and there is danger of a rupture of the uterus. We should also always have an anaesthetic so that we may control the pains if necessary. I believe it a much safer drug than ergot, for it produces strong, intermittent, uterine contractions, whereas ergot is inclined to produce tonic or tetanic contractions.

J. Clifton Edgar, of New York, recently reported a series of 70 cases classed as follows:

In the first and second stage	39 cases
Immediately after the third stage	19 cases
In Cesarean section	6 cases
For the induction of abortion	6 cases

I take pleasure in giving you some of his conclusions:

"Full and even small doses of the drug in the first stage of labor have caused in our case fatal compression of the fetus, premature separation of the placenta, and deep rupture of the cervix."

"Pituitary extract acted promptly and efficiently in most of our thirty-nine cases of inertia in the first and second stages. Its action was more positive in multipara than in primipara; it acted better at full term than in premature cases; also better in second than the first stage of labor when administered shortly after the spontaneous rupture of membranes."

"In the nineteen cases in which the drug was used immediately after the third stage for post-partum hemorrhage due to inertia, our results were disappointing. So much so that we consider its action here most unreliable and not as positive as the ergot preparations."

"For primary inertia in abortion cases, our results with the drug were disappointing."

"We consider the use of the drug in the first stage a dangerous practice, liable to cause death or deep asphyxia of the fetus,

separation of the placenta, uncalled for laceration of the cervix, and possibly uterine rupture."

"We look upon the use of pituitary extract before full dilatation or dilatibility of the cervix as equivalent to the use of ergot at this time. In fact it is probably more harmful than ergot, by reason of the more powerful contractions produced and the uncertainty of its action."

"We have repeatedly observed prolonged tempestuous contractions, when the drug was given in the face of too much resistance, closely simulating tetanic contractions of the uterus (tetanic uteri)."

"We have repeatedly observed both in private and hospital practice that 0.2 gram. of pituitary extract, half the usual dose commonly employed, produces such prolonged and powerful contractions that uterine rupture was imminent and anaesthesia was required to control the action of the drug on the uterus⁴."

Herz, a German writer recently reported a case of uterine inertia after prolonged labor in a young primipara who also presented a flat, rachitic pelvis. The fetal head was in mid pelvis and the cervix two fingers dilated and rigid. One cc. pituitrin was injected. Within a few minutes the pains became stronger and after a period of twenty minutes became tetanic in character. About one hour later the patient collapsed, after a very severe pain, and presented evidence of uterine rupture. The pains continued and she gave birth to a very small, asphyxiated infant. The placenta was delivered spontaneously. Subsequent examination showed that the cervix was entirely separated from the lower segment of the uterus and the fetus and placenta had been born through the tear. The parametrium were involved on either side. The vagina was packed and the patient treated expectantly. Two weeks later an examination showed fairly good union of the lacerated area.⁵

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Septicemia. Treatment. Fixation abscess advised, consisting in injection of 15 minims (1 c.c.) of spirit of turpentine in cellular tissue of thigh, loin, or deltoid region.—Charles.

LABORATORY METHODS THE GENERAL PRACTITIONER SHOULD USE.*

By RALPH L. SCHROEDER, Owensboro.

While humanity has been the recipient of inestimable blessings at the hands of physicians who knew little, if anything, of laboratory methods, the day has come when failure on the part of the general practitioner to avail himself of such means in the diagnosis of human ailments is inexcusable.

Generally speaking, the diagnosis of a case is of greater importance than the treatment and is made possible only by a careful study of the history, symptomatology and the laboratory findings.

Within recent years many advances have been made in laboratory methods and at present the chemical, pathological, bacteriological and X-ray laboratories each constitute a specialty. Consequently, much of the work in each of these departments, to be dependable, must be done by experts. This is especially true of pathological and major X-ray work. When we consider the technical skill required and the grave responsibility attached, for instance, to the examination of a specimen of suspected carcinomatous tissue upon the findings of which a diagnosis rests, it seems evident that work of this nature belongs to the expert pathologist. I do not mean by this that the general practitioner is not capable or qualified to do this work in exceptional instances. The average man, however, has done neither true nor major X-ray work and while the X-ray is one of our most valuable aids in diagnosis generally, aside from its use in case of accidents, it must of necessity play a minor role in the laboratory of the general practitioner.

The chemical laboratory, on the other hand, while of equally great importance and perhaps more often consulted, lends itself admirably to the average physician. It would hardly be possible to-day to find a doctor's office in which some pretense is not made at this nature of work. Even here, however, some facts must be faced and I believe it is safe to estimate that fully fifty per cent. of physicians in active general practice to-day are wholly incapable, even granting the necessary materials be furnished them, of making a reliable, complete, qualitative, quantitative, chemical and microscopical examination of the urine. Many men who make a routine of examining for albumen and sugar do not bear in mind the fundamental requirements for a dependable test of even this nature.

The examination of the urine from one voiding as frequently practiced is of no def-

inite value but often misleading. As in the case of indicanuria, large amounts may be found at certain times even in one day while at others only a trace can be detected. The same holds true of certain forms of albuminuria and in the estimation of the percentage of urea. In examination of the urine the specimen should be taken from the 24 hour voiding. The complete analysis of this, the entire amount voided in 24 hours being known, rarely fails to give us trustworthy and interesting information.

While the microscopic examination should often be made the result must frequently be modified by other means before it is of definite value. Thus, while the microscope may show blood or pus in the urine it does not reveal its source. Simple clinical procedures have been devised whereby this can be determined. By having patient void successively into three glasses we determine if there is blood or pus in the first and second only or in all three. If the third glass is free, we know the bladder and structures above are not involved and the lesion lies anteriorly or in the urethra. If the third glass reveals blood or pus we know the lesion lies either in the bladder or higher in the ureters or kidneys. To determine further a simple test may be used based upon the knowledge that the normal vesical mucosa absorbs practically nothing. Inject 10 or 15 grains of potassium iodide dissolved in several drachms of water and test the patient's saliva by having him expectorate into some ordinary starch paste acidulated with nitric acid. If the test is of a vesical lesion we get the positive reaction usually in the course of one-half hour. Should there be no vesical lesion, the potassium iodide is not absorbed and a negative reaction means the ureters or kidneys are involved. Blood from above the bladder leads us to suspect tuberculosis of the kidneys and while the examination of the urine for the tubercle bacilli is not a satisfactory procedure, the history of the case, the physical findings and the use of the Von Pirquet followed by a positive reaction will determine the diagnosis. If there remains doubt, as to the diagnosis, a cystoscopic examination and catheterization of the ureters is of great value, but the general practitioner is rarely qualified to carry out this work himself.

The ordinary tests for albumen such as Heller's and the heat and nitric acid are not sufficiently delicate to deter faint traces of albumen. The detection of such traces is frequently of greater importance than that of larger amounts. Uries modification of the saline acid heat test is reliable in showing such traces. A few cubic centimeters of a saturated filtered saline solution acidulated to two per cent. with acetic acid are boiled in a

*Read before the Daviess County Medical Society.

clean test tube. Overlay this with the urine and if albumin is present in the most minute quantity a white line is readily seen at the point of contact.

Some few tests of the urine are practically diagnostic. Thus the finding of casts of the granular or epithelial variety indicate nephritis, of indican, intestinal indigestion or fermentation, the Diazo reaction, typhoid fever. From our present knowledge, it would seem that the Diazo should be chosen by the general practitioner in preference to the Widal. It is simple of technic, appears early when the diagnosis is of greatest importance, reappears with relapses and is practically specific with the exception of acute miliary tuberculosis from which it can be distinguished by Russo's test.

The sputum is usually examined to determine the presence of the tubercle bacilli. In collecting a sample for examination care must be exercised to get the true bronchial contents and not merely saliva. The finding of the bacilli in any number is of course diagnostic, yet the absence of bacilli from the sputum does not prove the patient free from tuberculosis. All possible means should be utilized to establish the diagnosis in these cases before the bacilli appear in the sputum and upon this early diagnosis depends in great measure the success of our treatment. The sputum may also be examined for albumin and elastic fibres. The finding of albumin, in the absence of valvular lesions and nephritis is strongly presumptive of tuberculosis.

For the purpose of clearing up the diagnosis of chronic gastric diseases, the test breakfast and analysis of the stomach contents are frequently indicated. In interpreting the result of such examinations care must be exercised not to be governed too great by the findings. The presence of food remnants, lactic acid, Boas-Oppler bacillus, low acid index, blood and the absence of free hydrochloric acid is not pathognomonic of cancer. The same findings may obtain in other conditions such as latent calloused ulcer and reflex pylorospasm. Cases have been reported in which cancer of the stomach was accompanied by a normal or even high acidity. These tests, however, may be readily made by the general practitioner and in selected cases are of great value.

With the advent of bacteria therapy has come an increased demand that more attention be devoted to bacteriology. If we are to expect favorable results from the use of the various bacterines it is obvious that the exact causative organism must be known. A general failure on the part of practitioners to avail themselves of the laboratory in determining this point has resulted in the various polyvalent mixtures now flooding the market.

The use of such preparations is in no way scientific and while there are exceptional cases and extenuating circumstances, where the symptomatology is specific or a delay would be detrimental, the use of stock vaccines without a laboratory diagnosis is to be condemned.

In many suppurative or chronic conditions the proper examination of the blood, especially the differential count, is of great importance. The question of operation in cases of acute appendicitis depends largely upon the blood picture. So in the various anemias, typhoid, malaria, syphilis, etc.; valuable information can be obtained from blood examinations.

The amount of laboratory work the general practitioner should do and the method he should employ are questions that can only be decided by the individual. Such are the facilities at present for having much of the special work done by experts in the various fields of laboratory work in private or public laboratories that the average physician will limit his work to the more ordinary examinations which require but little equipment and not much special training.

The laboratory but rarely makes a positive diagnosis and at all times the findings must be qualified, modified, and acted upon only in accordance with the accompanying symptomatology and physical findings.

Syphillis.—E. B. Krumbhaar and C. M. Montgomery, Philadelphia, (*Journal A. M. A.*, January 24), found 3 per cent. of a thousand new consecutive cases in the outpatient department of the Pennsylvania Hospital syphilitic which they consider probably less than half of the actual proportion that had contracted the disease. They give an analysis of 108 cases tested by the Wassermann reaction and conclude that their experience will be equalled elsewhere. As regards the proportions encountered in the general medical dispensary, the manifestations of the disease in such cases are often obscure and misleading, and they form a group quite distinct from the type ordinarily found in the dispensaries for genito-urinary, surgical or nervous diseases where distinct symptom-complexes or localizing phenomena are commonly encountered. Students should be instructed as to these atypical forms of syphilis and be impressed with the need of being constantly on the lookout for them. Dispensaries should have, as nearly as possible, a definite routine treatment for these cases, salvarsan having a prominent place and every available means, including the cooperation of the social service department, utilized to insure the carrying out of proper treatment.

RECENT METHODS IN HOSPITAL ANESTHESIA.

By C. N. CHIPMAN, Washington, D. C.

More real progress has been made in the study of anesthetics and anesthesia during the last ten years than during the preceding sixty-five years which have elapsed since the first public demonstration of anesthesia was made. For many years little attention was paid to the administration of anesthetics, either in the selecting of the anesthesia agent, the method of giving the same, or the equipment used. Any old way was good enough, the chief object in view was to have the patient completely narcotized, it being an iron-clad rule that the patient must never move or cough after being placed on the operating table for fear they might disturb the surgeon in some way. It made little difference if it required days and sometimes weeks of the most intense nausea and vomiting to recover from the effects of the anesthetic. It is little wonder that a patient having had an anesthetic in those days and requiring the second went to the hospital in greater fear and dread of the anesthetic than of the operation itself, because of the smothering and choking before and the nausea and vomiting following. They also did not fail to inform their friends needing an operation what a very pleasant time they would have taking the anesthetic, so that many dragged along without the much needed operation rather than suffer like their friend. This state of affairs is probably accounted for by the fact that anesthesia has always been under the direct supervision of the surgeon, generally administered by a nurse, or an untrained assistant. And as the old saying "we can not do two things at the same time," the surgeon needing all of his time and attention for the operation, the anesthetic was neglected, the surgeon often getting a bad result, and the patient worse than a bad result, a pine box sometimes being required to end the story.

A young surgeon called in a nurse, unqualified with respect to anesthesia, to anesthetize for a short, and as far as life was concerned, an unnecessary operation, when doctors were easily available for the purpose. The patient died in less than ten minutes. The result was a court procedure, and the necessary removal of the doctor to another locality. Another physician desiring to examine a man for hemorrhoids called in a dentist to administer nitrous oxide and oxygen. The patient died in the doctor's office. The result was a court procedure, the question being that dentists should not use nitrous oxide and oxygen for surgical purposes, unless specially trained.

So you see there is the medicolegal aspect as

well as the risk the patient undergoes in using an untrained anesthetist. The courts hold a surgeon responsible if he uses an untrained anesthetist acting merely as an assistant. In these days of specialism anesthesia can no longer be considered merely a part of the surgical procedure. Mortimer suggests that in becoming a "specialist," the anesthetist opens himself to actions for damages on account of injuries sustained during anesthetization.

Up to about three years ago the hospitals of this city were using untrained anesthetists, internes, students and nurses. About that time I collected the number of anesthetics given during the previous five years in all of the hospitals of the city. The results during the days of untrained anesthetists were about eight deaths from chloroform, or one out of every 243 persons anesthetized with chloroform dying.

There were some four or five deaths from ether, or one out of every 11,000 persons anesthetized with ether dying. These statements show beyond a doubt that in untrained hands ether is much safer than chloroform.

Within the past three years all the hospitals, with two or three exceptions, have employed trained anesthetists. So far as I am able to state to-night, within the past three years there have been some three or four deaths from ether and one from chloroform. The deaths referred to above were ones that occurred during the operation; several occurred during primary anesthesia before the operation had been started, so that they are straight anesthetic deaths.

The recent chloroform death was of that character, the patient dying before the operation was started. The anesthetist had been using chloroform for years and thought it was safe, but he only had the same result that every one obtains who uses much chloroform.

It is now conceded that chloroform which has played such a stormy part in the drama of anesthesia, should never be used alone, or as the terminal anesthetic. Personally, I think it should not be used in any form. As late as 1908 in some of our hospitals, chloroform was used for fifty per cent. of the operations.

INTRAVENOUS ANESTHESIA.

General anesthesia by the intravenous route was demonstrated as a possibility by "Ore." in 1872, who used chloral hydrate as the hypnotic agent. Since that time it has been used by various members of the medical profession, like many discarded or forgotten surgical procedures, because of the apparent novelty rather than any good results obtained. It is

a method that will never be of general use. The only good feature is that it produces a quiet anesthesia. The objections are high death rate, special training required, extensive apparatus, keeping a fluid at even temperature, scrupulous asepsis required in opening of the vein and introduction of the cannula, danger of septic thrombosis, and last but not least, the introduction of 500 c.c. to 3000 c.c. of fluid into the veins is a serious objection because of the increased oozing and overloading of the heart. R. C. Coburn recently stated that although a very small amount of ether is administered in the intravenous method as compared to that used in the inhalation method, we have a greater ether toxication when the intravenous method is used.

RECTAL ANESTHESIA.

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The oil-rectal method is a possible but not a practical way of administering ether and producing anesthesia. Unlike the method above, it requires little in the way of equipment, 6 ounces of ether, plus 2 ounces of olive oil, a douche can and small rectal tube are all that are required. The objections are very often light anesthesia, or again very deep narcosis, irritation of rectum, etc. R. C. Coburn also claims increased ether toxication by this method.

SPINAL ANESTHESIA.

Spinal anesthesia is not a universal anesthetic, although it produces the greatest degree of muscle relaxation with the least protoplasmic disturbance. Even if skillfully administered it is probably more dangerous than a transient and light narcosis under ether or nitrous oxid and oxygen. Spinal anesthesia causes an earlier and more marked fall in blood pressure than other anesthetics, with a slowing and weakening of the heart action, and should therefore be used with caution or avoided in conditions of marked hypotension of the circulatory system. Spinal anesthesia requires a more highly developed technique and a greater degree of watchful supervision than does the use of ether. Spinal anesthesia is relatively safer in the young and robust than in the enfeebled and toxic. Spinal anesthesia has a high death rate.

INTRATRACHEAL INSUFFLATION ANESTHESIA.

Meltzer and Auer have shown that continuous insufflation of air into the trachea under moderate pressure is capable of ventilating the pulmonary alveoli of effecting the necessary exchange of oxygen and carbon dioxide and sustaining life for many hours when all respiratory movements have been abolished

by curare. They have shown that it is the most effective and ideal method of artificial respiration known. They have developed the method of intratracheal insufflation anesthesia with the following conclusions:

1. Intratracheal insufflation, administered with accurate control of the strength and amount of ether vapor, is a new principle in anesthesia which in certain classes of cases has many advantages over other methods.

2. The difficulty of intubating and the necessity of inducing full surgical anesthesia, before this can be accomplished, makes this a method unsuitable for many short, simple operations. Its use should be restricted to the cases in which it has special advantages.

3. It is absolutely safe both as to administration and freedom from deleterious after effects if a proper apparatus is used.

4. It is an ideal method of differential pressure for operations involving the opening of one or both plural cavities, greatly reducing the danger of intra thoracic operations.

5. It prevents aspiration of mucus or saliva, vomitus, blood or other foreign matter into the trachea, simplifying and decreasing the danger of operations on the tongue, jaws, mouth, nose, pharynx, etc., preventing aspiration pneumonia.

6. It is especially useful in operations about the head and neck. The anesthetist is out of the way; the operative field is easily kept sterile and obstruction of the upper air passages is absolutely prevented.

7. The degree of anesthesia is under perfect control. Over-etherization is impossible at or below 21 per cent. by weight of ether vapor.

Ether may be used also in the same manner for intratracheal and intrapharyngeal anesthesia.

Nitrous oxide and oxygen may be substituted for ether in the above methods with even better results, because the gases are under great pressure in the cylinder, so that no pump is needed; nitrous oxide and oxygen is the safest anesthetic, also nitrous oxid does not irritate the lungs as does ether.

THE DROP METHOD.

The most universal anesthesia to-day is ether by the drop or open method. Some men advocate that all operative cases can be anesthetized by this method. The simplicity of the technique, the small cost of the material, and a simple open inhaler, makes it an anesthetic that may be given at any time or place. By this method it is possible to anesthetize the patient, quietly, without any excitement or coughing, carry them through a serious and prolonged operation and have the patient react within a few minutes with little or no

nausea and vomiting. Do not misunderstand me as advocating this method alone, for it is by the utilization of combinations and sequences that were practically unknown until within recent years, that renders the modern which has helped so materially in the reduction of the mortality statistics as applied to anesthesia.

NITROUS OXID-OXYGEN ANESTHESIA AND ANOCI ASSOCIATION.

Of the general anesthetic agents now employed, the combination of pure nitrous oxide with oxygen, when properly administered, is the safest, the most agreeable and the freest from postanesthetic complications.

Anoci association is the word coined by Crile, of Cleveland, and used by him to designate a condition of the patient in which harmful stimuli are prevented from reaching the brain by blocking or paralyzing the receptor mechanism by anesthetics or narcotics. With this dissipation of nervous energy there results a general functional weakness which causes a condition clinically of shock. In speaking of the part played by anesthetics in producing brain cell exhaustion, he states that although ether anesthesia produces unconsciousness, it apparently protects none of the brain cells against exhaustion from trauma of surgical procedure.

He further states that the negative evidence that inhalation anesthesia offers little or no protection to the brain cells from trauma is derived from the following experiment:

A dog, the spinal cord of which had been divided at the level of the first dorsal segment, and then kept in good condition for two months, showed a recovery of the spinal reflexes, such as the scratch reflex, etc. This animal is known as the spinal dog. Now in this animal the abdomen and hind extremities have no direct nerve connections with the brain. In such a dog a continuous severe trauma of the abdominal viscera and of the hind extremities lasting four hours caused not the slightest change in either the circulation or respiration and no microscopic alteration of the brain cells. Judging from a large number of experiments on normal dogs, under ether, such an amount of trauma should have caused not only a complete physiologic exhaustion of the brain, but also morphologic alteration of all the brain cells and physical destruction of many.

We must, therefore, conclude that although ether anesthesia produces unconsciousness, it apparently protects none of the brain cells against exhaustion from trauma of surgical operations. Ether is, so to speak, but a veneer. Under nitrous oxid-oxygen anesthesia there is

approximately only one-fourth the exhaustion after equal trauma as under ether. Either nitrous oxide protects or ether predisposes to exhaustion under trauma.

Such men as Teller, Gwathmey, Huvette, Gatch, Henderson and others have found that nitrous oxide and oxygen anesthesia causes little or no shock, and does not produce nephritis, pneumonia or any of the degenerative changes so common after ether or chloroform anesthesia. The only practical danger of gas oxygen anesthesia is that of asphyxia, caused by the fact that nitrous oxide must be given from eighty to ninety per cent. pure, so that the gas will act on the nerve cells and bring about the proper anesthetic state. The patient can pass from profound anesthesia to the conscious state within sixty seconds, and for that reason the extreme rapidity of induction and elimination makes the administration of nitrous oxid and oxygen the most difficult general anesthetic to administer properly.

ADVANTAGES OF NITROUS OXIDE AND OXYGEN ANESTHESIA.

1. Rapidity of action.
2. No unpleasant sensation to patient.
3. Absence of post-operative complications.
4. Very little post-operative vomiting.
5. Absence of pneumonia, nephritis or blood changes.
6. Little or no shock.
7. Lack of dread should future anesthesia be required.

DISADVANTAGES.

1. The necessity of a trained anesthetist, and an expensive apparatus.
2. Cost of the nitrous oxide and oxygen.
3. Rigidity in some cases; although this can be entirely avoided by using Crile method of local infiltration of 1-400 solution of novocaine, so that it is possible to have complete relaxation in all cases.

As a preliminary to ether, I believe nitrous oxide and oxygen has no equal. With preliminary of morphine, nitrous oxide-oxygen and local infiltration of solution of novocaine it is possible to operate upon a patient and they not know anything about the operation until the wound is redressed or entirely well. This is accomplished by taking the patient to the hospital and not telling them the day they are to be operated upon. They are daily given a hypodermic of sterile water, enough nitrous oxide-oxygen to put them to sleep and a bandage is applied over the place to be operated upon. The day of the operation morphine sulphate, gr. 1-3, atropine sulphate, gr. 1-150, is substituted for the hypodermic of sterile water and with nitrous-oxide-oxygen anesthesia and local infiltration of novocaine

anesthetic the operation performed. They are returned to their bed as on former days without pain, shock, nausea or vomiting, or any unpleasant conditions. This method, when properly carried out is the ideal anesthetic. This method can be used with few exceptions if the proper technique is carried out.

IN CONCLUSION.

1. Ether by the drop or open method is the anesthetic in most universal use and is the safest in unskilled hands.

2. Nitrous oxide-oxygen with a preliminary of morphine sulphate, gr. 1-4, atropine sulphate gr. 1-150, and infiltration of a local anesthetic is the ideal anesthetic.

3. Every large hospital, should have as a regular member of its staff an attending anesthesiologist, as is the case in some, whose authority in his special department should be as complete as is that of the attending physician or surgeon in their field.

THE TRUE PHYSICIAN.*

By E. E. BICKERS, Port Royal.

There is no greater calling for man than that of a true physician unless it be that of the ministry, there is no business that carries with it as great a responsibility as does the practice of medicine and of surgery, in his every day duties he is dealing with the lives of his fellow man, a mistake in the treatment of the case may snap the brittle thread of life and launch that human being into eternity.

If he is a true man and physician his highest ambition is to see the sick restored to health again. There is nothing that brings him more pleasure than to see one that has been almost at death's door with some bad disease, to see them rapidly returning to health again, and it is very gratifying to the physician to think that by his masterly skill and his good knowledge of therapeutics he has been enabled to overcome the disease and return his patient to health again. He is a man of all men that must keep his wits together because he never knows when he may be called to attend some one that is almost at the point of death from some accident, when all other attendants are scared out of their wits from the appearance of a bleeding artery, or a post-partum hemorrhage when you are called to attend the lying in woman and find her in esclamptic convulsions. It is these cases that require judgment and a steady nerve to tide them over these precipices and land them on the right road to recovery.

There is no class of professional or scientific men that have contributed more to the general

welfare of the world than have the men of the research laboratory. They have given the world the benefit of their researches and it has been through these true men of science that medicine and surgery has been made what it is to-day.

The writers of the world's history have written pages as an eulogy to some noted general who has slain his thousands and conquered his enemies and gained the victory for his cause. They have also paid honor to that statesman that has gone forth in the defense of his country's rights; they have erected marble slabs to the memories of the sleeping heroes of the world that have won honor and fame in times of war and peace. But in their wild rush to pay honor to these men that have won fame in the world's history they have forgotten some of the greatest heroes that are to-day sleeping beneath the sod of the valley; such men as Jenner, Kotech, Loeffler and many others that have given their life and time to science.

The time will come when these men that have given their lives to this great cause, in order that the world may be made better, healthier and happier by their having lived in it, will take their places among the heroes of the world, and before the close of the present century the people of the entire world will be speaking praise of these great men of science.

It has been the mission of the true physician in all ages and in all climes, to teach the people how to keep from getting sick, something that no other class of business men would do, try to put themselves out of business. It matters not in what part of the civilized world you may go you will find the physician's preaching preventive medicine. The physicians and health boards are the guardians of the future welfare of our nation. Had it not been for the health officers when would the Panama Canal have been dug Never! It had been undertaken on previous occasions but had been given up on account of the bad sanitary conditions; men could not live in that country, but to-day the Panama canal zone is as healthy a place as there is in the United States.

What have the physicians and health boards done for the South and other tropical countries. They have practically eliminated some of the most dreaded diseases that were so common in that climate from the list, namely yellow fever. The time was when this disease would come in the form of an epidemic and would almost paralyze all forms of business. people would leave that land of sunshine and flowers by train loads, going to a more healthy clime.

But through the skill of the health officers

*Read before the Henry County Medical Society.

of the national government, aided by the local men of the South, a few years ago found the cause of this dreaded disease and by means of prophylactics have practically driven that disease from the Southern ports.

In the great struggle to find the cause of that disease some three or four men of the national board of health lost their lives, being infected by the yellow fever mosquito. Yet, the people of the nation and, especially of the South, in their great rush to pay honor and tribute to men that have contributed to the world some valiant service, have forgotten these men that have made the South what it is to-day, a health resort for the whole world.

The man of leisure can now invade the ports of the South and escape the cold winter winds of the north with the assurance that he will not have to flee on short notice to escape yellow fever. The physicians and health boards have been of more real value to countries in the tropical regions than any other class of professional and business men. The law of disinfection, the law of quarantine and isolation have added more to the real value of the country than any other law that has ever been enacted by any law making body.

There is nothing that can add more to the wealth and happiness of a country than good health. By the means of vaccination and quarantine, some of the most fatal diseases we have had to deal with in the past have almost been eliminated from the list, especially small-pox. At one time it was one of the most dreaded of all diseases but to-day the severity is almost nil. You can hardly make the people believe that it is small-pox.

Diphtheria and scarlet fever a few years ago would break out in a community and render that community almost childless, but to-day by the law of quarantine and isolation aided by the therapeutic use of the serum therapy we can confine it almost to a few cases.

Typhoid fever has been the bane of humanity ever since the hour of his existence but is being placed on the list of preventable diseases by means of a vaccine. No doubt before the dawn of another decade typhoid fever will be one of the diseases that we will scarcely hear of.

So year by year we are adding to the list of preventable diseases until before the close of another quarter of a century the acute infectious diseases will be a thing of the past.

So, summing up the life work of the true physician we find that no class of business or professional men have contributed more to the world's good than have these men that have given their life work in order that man may know how to keep well. His life has been one of privation and sacrifice, and sacrifice with

no eight or ten hour system, but on duty twenty-four hours in the day three hundred and sixty-five days in the year, with small pay for what he has done for humanity.

But in the evening of his life when the sun is setting behind the western hill of time, he can sit down with a clear conscience feeling that he may not have accumulated wealth but he has given something to suffering humanity that is far more valuable than gold or silver, a life of true devotion.

Now that the business, commercial and social world no longer add new charms to his life; the political world with the harrangue of the political demagogue as he scales the heights of the political arena in his endeavor to proclaim that tariff reform or the election of United States Senators by popular vote, are the essential requisites to good government, no longer disturb the peaceful mind of this man that is in the declining years of life enjoying the thoughts of a well-spent life and hoping by the many good deeds and true service that he has given to suffering humanity, that the Great Physician, who has been the balm and giliad of man since the dawn of his existence will take notice of these many noble deeds and give him a life in that land of eternal bliss where there will be no night:

Liberation of Formaldehyd.—The liberation of formaldehyd hexamethylenamin in pathologic fluids has been studied by Paul J. Hanzlik, Cleveland (Journal A. M. A., January 24), who had previously shown that decomposition of hexamethylenamin takes place only in acid urine and gastric juice and that it does not occur in the body fluids that are neutral or that are truly alkaline and in normal conditions. It seemed possible, however, that the reaction of certain pathologic fluids might be truly acid and they therefore have tested the urines, cerebrospinal fluids, bile, edema as ascitic fluids in various diabetic patients to determine the distribution of hexamethylenamin and free formaldehyd and the reaction of these fluids in various pathologic conditions. In twelve urines in patients suffering from nephritis, the behavior of hexamethylenamin was found to be the same as that in normal persons. Examinations of cerebrospinal fluid, bile, and various pathologic serums and the blood of diabetics revealed no free formaldehyd, and it can be contended, therefore, that no bactericidal action could have been expected. The conclusions deduced from their studies is: "The decomposition of hexamethylenamin in pathologic fluids obeys the same laws as in normal circulating fluids, and fluids in vitro under different clinical conditions. That is, the liberation of free formaldehyd from hexamethylenamin depends on the hydrogen in concentration of the fluid (true acidity)."

THE DUTIES OF THE ANESTHETIST.*

By EMMETT F. HORINE, Louisville.

Until about fifteen years ago the anesthetic was usually administered by an untrained assistant or by a nurse. The potentialities for harm when this was the case were very great. An agent powerful enough to produce unconsciousness and complete insensibility to pain should be carefully used and only by an experienced person. The life of the patient is truly in the hands of the anesthetist and he must be prepared for any emergency that may arise. Can the surgeon afford to place the life of his patient in the hands of one unskilled in anesthesia, such as an untrained assistant or a nurse? I grant that a nurse may successfully anesthetize for some time but sooner or later an emergency will arise demanding more medical knowledge than she it is that the degree in medicine gives the legal possession and then trouble will ensue. True, that it is the degree in medicine gives the legal right to administer an anesthetic though it does not confer the moral right. For an anesthetist must not only possess medical knowledge but he must fully understand the physiological action of the agents employed and by clinical experience know which anesthetic to select for each case.

The anesthetic of to-day cannot be a slave to any one anesthetic. It is foolish for one to say that he gives ether and never any other anesthetic, or that he gives only chloroform, or as some say: "never anything but nitrous oxide and oxygen." As is well known there are certain indications and contraindications for each drug. This being true it follows that to give an anesthetic in the face of certain contraindications would not only work a grave hardship on the patient but it would also show the anesthetist to be incompetent. The competent man is the one who can skilfully administer any one of the three known agents, nitrous oxide, ether or chloroform either alone or in combination or sequence. In addition a fine sense of discrimination must be used in selecting the agent or sequence in each particular case. Nitrous oxide which is ordinarily the safest anesthetic becomes dangerous if used in unsuitable cases. Ether is safe and in some clinics is used in a majority of the cases but it also has its limitations. Chloroform is the most dangerous but in certain cases it is especially indicated. The expert considers every factor in the case at hand and then selects the agent which will be the safest and which will produce the least after-effect. One must always be prepared to change to a different agent should indications

for such change arise. Without doubt some of the deaths during anesthesia can be attributed to the use of an improper agent.

In administering an anesthetic one assumes a moral obligation which is indeed weighty. Where possible the patient should be examined on the day previous to the operation. The fear of the anesthetic is a real one and the patient should be reassured. Most patients are considerably more worried at the thought of having to be anesthetized than they are over the operation itself and some are positive in their assertion that they will never awaken. The anesthetist must always attempt to gain the confidence of the patient by approaching him or her in a calm, quiet and dignified manner so as to in no way cause excitement or alarm. If he can inspire the patient with confidence a far more satisfactory anesthesia may be obtained.

But whether the examination be made a day or two prior to or immediately before the operation, it should be conducted with the following points in view.

1. Determine the exact condition of the patient's heart and lungs.
2. Take pulse and respiration and make an estimate of the blood-pressure.
3. If the urine has not been previously examined it becomes the duty of the anesthetist to see that this is done.
4. Obtain the previous anesthetic history, if any.
5. Give orders with reference to the preliminary hypodermic.
6. Decide upon the anesthetic and sequence most suitable taking into consideration the nature of the operation.
7. Above all, try to win the full confidence of the patient and by voice and manner inspire him or her with your ability and with your earnest desire to do your best.

Before the anesthetic is begun all foreign bodies should be removed from the mouth. During the period of induction care should be exercised not to startle the patient. Absolute quiet on the part of the onlookers should be insisted upon during this period. It is best to exclude relatives and friends from the room though of course in certain instances it is well to have them remain. The anesthetist must keep his whole attention on his work and under no condition should he allow outside influence to interfere with it. The steps in the operation should be from time to time observed and the depth of anesthesia regulated accordingly. The respiration and pulse should be watched and in the more serious cases estimations of the blood-pressure should be made at either five or ten minute intervals.

A permanent record of each administration

*Read before the Muldraugh Hill Medical Society, April 10, 1914.

should be made which should include the following data: Name, age and address of patient; date; findings at examination, rate of pulse and respiration, blood pressure; anesthetic employed; diagnosis; operation; name of surgeon and physician; names of assistants and witnesses. In addition it is well to state time when anesthetic was begun and when the patient was fully anesthetized as well as length of operation. The amount of anesthetic used should be given as well as patient's weight. The careful man usually visits his cases on the day following the operation for the purpose of ascertaining if nausea occurred and if any unusual symptoms arose.

The anesthetist must know the exact condition of the patient during the entire operation. He must be ever watchful and he should notify the surgeon of any alarming symptoms. By constant watchfulness trouble may be anticipated and therefore quite often prevented. As a rule stimulants and hypodermoclysis or intra-venous saline are not needed but the anesthetist should see that they are in readiness should untoward symptoms arise.

At the end of the operation the condition of the patient is carefully noted. The anesthetist should now see that the patient is safely placed in bed and left in charge of a competent person, special instructions being given if necessary. If the operation has been performed in the home and no nurse is present, the anesthetist should remain until satisfactory symptoms of recovery have been observed.

In conclusion I agree perfectly with Neff who says that: "Whether the case is an apparently simple or a critical one, it should be remembered that the good anesthetist, like the good surgeon, is he who, besides being competent, has a conscience, and feels his responsibility, who appreciates that there are some who are anxiously awaiting the outcome, and have a deep interest in the life that is in his hands."

Plague in Porto Rico.—S. B. Grubbs, Providence, R. I., (*Journal A. M. A.*, January 24), gives a history of the bubonic plague in Porto Rico in 1912. It was first discovered in a squalid district of San Juan and the positive diagnosis was given to the governor by the director of health, three days after the case was discovered. The governor promptly proclaimed the existence of plague and measures were taken at once to clean up the city and eradicate the disease. Of course, a panic resulted and radical measures were proposed but these, however, were not deemed necessary and the panic quickly subsided. In all 56 cases occurred with 36 deaths and the infection was completely destroyed in three months' time.

FOREIGN BODY (STEEL) IN THE EYE BALL—METHOD OF REMOVAL.*

By J. H. HESTER, Louisville.

On May 19, 1913, Mr. W. D., of Peoria, Ill., age 22, occupation laborer, was sent to the Illinois Charitable Eye and Ear Infirmary by his family physician of that city, and as I was House Surgeon of this institution at that time, it became my duty to look after this patient as he was placed on my service.

He gave the following history: Ten days ago he was attempting to take a door off the hinges, with a chisel, when a piece of steel, from the head of one of the screws, struck him in the right eye. The pain and loss of vision resulting therefrom caused him to seek medical aid; so he consulted a specialist of that city. He was under this doctor's care for about ten days, and during this time several attempts were made to remove the steel with a giant magnet, but to no avail. The doctor then advised the removal of the eye, but he refused to have this done. He then consulted his family physician, who advised him to come to this institution.

Condition when patient arrived at hospital: Right eye vision, could only see a bright light when reflected in his eye from a mirror, but could not point out the direction of the light, or in other words poor perception and no projection; lids normal; marked conjunctival and ciliary injection; cornea had a perforating wound about 5 mm. in length, pointing at about 8 o'clock, anterior chamber filled with blood; iris lacerated and slightly prolapsed. Left eye vision, 20-20-1.

Treatment and subsequent history: It was my custom when a patient came into the hospital with a history of a piece of steel in the eye-ball, to try to remove it with the giant magnet, and failing in this, he was sent to our X-ray man for a diagnosis. In this case the giant magnet was used with no results; so this patient was sent, and an X-ray made, which showed foreign body in right eye as per diagram which I will now pass around. It took twenty-four hours to get this report, and in the meantime, I had Dr. Dodd, one of the head surgeons of the institution, see this patient and he suggested the removal of the eye if pain continued until morning. When morning came the patient had slept but little, and then only when under the influence of morphine. By this time I had my X-ray report which showed the foreign body and location of same. The patient was prepared in the usual manner for enucleation, however before doing this, I had decided to try another method of removing the steel; so I did

*Read before the Jefferson County Medical Society.

a posterior sclerotomy on the outer side of the eye ball, about ten m.m. back of the limbus. I again tried the giant magnet with no results. It then occurred to me that I could take a strabismus hook and place it in the eye near the steel and attach the magnet to the hook, hence removing the steel in this way; so I did this and as soon as the current was turned on I felt the resistance of the steel. I gently removed the hook by raising the magnet and when it came out I had a piece of steel size 1x2 1-2x5 1-2 m.m. I lost no vitreous, and the patient complained but little while removing the steel. That part of the iris which was prolapsed was removed. This was all done under cocaine and adrenalin anesthesia. Atropin and dionin were put in the eye, bandage applied, and patient put to bed with a hot water bottle to his eye. The patient slept well the following night, and did not complain of any more pain. The eye was treated in the usual way, and at the end of one week the eye had cleared up till patient could see shadows. One week later patient was discharged. Condition: Right eye, could distinguish objects. Left eye vision had remained same during all this time.

I had a letter from the patient about four weeks after he left the hospital, in which he stated he could count fingers at a distance of ten inches with the injured eye.

This book should have the title "Ten Sex Talks to Mothers of Girls." The writer has very little patience with the efforts of some would-be reformers to teach such information as is found in this book to young girls, congregated together in the school or elsewhere, unchaperoned by their mothers. The proper person to teach a young girl sex relations is her mother in the privacy of the home surrounded by home influence and freed from the curious comment of some in any crowd of girls, who would twist the lesson to an unholy use.

In the matter of teaching sex to school children by the teacher, the cart is put before the horse and a great deal of harm would result from this kind of crusade. If all minds were pure and all teachers were informed of what to teach and how to teach it, only good could result. Unfortunately, neither of these conditions obtain and the putting forth of such books as this into the hands of young girls, in the writer's opinion, is but serving as a stimulation to a morbid curiosity which is being gratified by an attendance upon social and problem plays which have to do with sex relations. Such material as this would be read with the same avidity by the type of mind that fairly consume the cheap and questionable literature of certain magazines which play for popularity and feed these victims with literature of unsavory and immoral flavor.

BRONCHITIS.*

By C. E. VIDT, Russell.

The unusual prevalence of bronchial disturbances in the last few months has, undoubtedly, instigated a request for a review of the more common bronchial conditions, and certainly such a review is not amiss at this time and meeting. I will not attempt to cover the subject in its entirety, but will limit my remarks principally to symptoms, diagnosis, and differential diagnosis.

At the present time the world at large is at war vociferously with tuberculosis, and this is especially true in Kentucky. Much has been said and as much more has been written with reference to the early diagnosis, management, and prevention of this intractable disease. Capable and masterly essays have been read and listened to by the members of the numerous medical societies, and, which in turn were followed by eloquent and scientific discussions. Not only is this interest limited to the medical fraternities, but the various magazines and daily papers have propagated and heralded the importance of early medical attention, to every reading individual to the most inaccessible portions of our States. I doubt very much whether the increased demand for medical attention by the general public for respiratory troubles is due to an increase over the average amount of cases we have previously seen at this time of the year, but am inclined to believe that the constant lecturing, splendid work done by the various organizations, and the daily press, have educated the public to a point where they see the importance of early medical attention. This to the practicing physician should be considered with a great deal of responsibility, for upon his interpretation of the chest-findings of an individual who presents himself for some disturbance within the thoracic cavity, and his verdict, depends the future welfare of that person. Unless the physician takes advantage of such an opportunity and uses all the knowledge and skill which he possesses in making an early diagnosis, he certainly is depriving that patient of his just rights. Again the movement on foot to eliminate tuberculosis will all be for naught unless we physicians take the matter up from this point and use all the methods that we possess in making a definite diagnosis when the case presents itself.

Acute bronchitis, without a doubt, is one of the most frequent conditions for which the physician is called upon to prescribe. Prescribe probably he does well enough, but how often does he examine the chest of his patient to determine whether or not there is an

*Read before the Greenup County Medical Society.

underlying condition, possibly tuberculosis, which very frequently is the case, and of which the patient is not aware? By considering these cases too lightly the patient innocently loses a great opportunity, and later may give rise to serious trouble.

SYMPTOMS.

The history of these cases carefully taken will prove of inestimable value. Cough which at the beginning is hard and dry, is the most conspicuous symptom. Shortness of breath is occasionally present in a mild form, and the temperature, if any, rarely exceeds 101 degrees F., if beyond this it would be well to look for a more deep-seated involvement. The expectoration at first scanty and mucoid, gradually becomes more abundant and mucopurulent. The physical signs with the exception of auscultation are practically negative. On auscultation we will find dry rales of a sonorous type, transient in nature, and, in a great majority of instances, invading both lungs. I wish to lay particular stress upon this one point, that is, the bilateral tendency of this condition. A subcrepitant rale is also heard, occurring during both inspiration and expiration. It is wiser and safer to guard one's diagnosis of a unilateral bronchitis and have the patient return at short intervals for further examinations. These symptoms together with the history makes bronchitis readily distinguishable from other cough producing affections.

DIAGNOSIS.

The history, presence of the dry sonorous rales; the subcrepitant rale occurring during both inspiration and expiration, coming and going; a clear percussion note and the bilateral tendency is sufficient to make a definite diagnosis

DIFFERENTIAL DIAGNOSIS—CHRONIC BRONCHITIS.

This is not usually difficult. The history and various moist rales, more pronounced at the bases of both lungs posterior, with otherwise negative physical signs, usually suffice to differentiate it from other bronchial disturbances.

TUBERCULOSIS.

Here is where the physician's utmost care and knowledge is called upon. I refer here to tuberculosis in its incipency, for here only does it resemble somewhat bronchitis, for after we have the stage of complete consolidation the diagnosis is not difficult and the period when treatment will be most beneficial to the patient will have passed.

INSPECTION.

From this we may learn nothing. There may be a slightly diminished expansion of the infraclavicular spaces of the infected side as compared to that of the opposite side. In some instances the general appearance may be suggestive, and the respiration a little more rapid.

PALPATION.

Palpation is usually negative, there may be an increased vocal fremitus.

AUSCULTATION.

A change in the breath sounds is undoubtedly the first evidence of the disease. The abnormality shows itself principally in a prolongation of the expiratory murmur and a harsh inspiratory sound. Subcrepitant rales at the end of inspiration are also heard.

PERCUSSION.

Percussion generally elicits a slight impairment of resonance in the region of the clavicle. By having the patient to hold his breath at expiration, dullness may be detected.

To differentiate this condition from a bronchitis of a mild and prolonged type is at times difficult in the early stages, but by careful questioning, observing, and painstaking examining of the chest, together with the tuberculin test, competent Roentgen ray examination, and blood picture, a definite diagnosis can in the great majority of instances be arrived at.

The Small Hospital.—How to make over a dwelling-house for hospital purposes is told by J. A. Hornsby, Chicago (Journal A. M. A., January 24), in a very fully illustrated paper. He gives illustrations of three such remodeled dwellings. He says: "In contemplating the equipment of one of these small dwelling houses for hospital purposes, about the only thing that need be thought absolutely necessary is a small sterilizing plant made up of water, dressing, utensil and instrument sterilizers. This plant adequate in size should be as follows: two 6-gallon water sterilizers; one dressing sterilizer 16 by 24. One utensil sterilizer 16 by 18 inches; one instrument sterilizer 6 by 9 by 12; cost of sterilizing-plant, \$300. The balance of the equipment for a hospital of this sort follows, with approximate prices which will have to be paid for the several articles, the whole equipment to cost approximately \$952.50 plus \$40 for each patient more than one, since the bed equipment for only one patient is omitted." The details of this further equipment costing the price mentioned are given in full.

THE MEDICAL TREATMENT OF APPENDICITIS.*

By A. P. DOWDEN, Eminence.

In attempting to give you a paper on the "Medical Treatment of Appendicitis," I am aware of the fact that I am liable to start something. However, I believe we should not be "the first by whom the new is tried nor yet the last to cast the old aside," and anything I shall say this afternoon will be based upon my reading and what I have learned by actual experience at the bedside. In the earlier years of my practice, and the years are not yet heavy on my shoulders, I was taught and believed that as soon as a diagnosis of appendicitis was confirmed I ought not to stop until the appendix was out of the abdominal cavity. I may be growing old, I hope not, but I am trying to grow more conservative.

Don't understand that I shall say anything in condemnation of, or in opposition to, surgery. Far from it; I believe in surgery but I also believe the internist has a part and a very important part; and that in the treatment of appendicitis, like every thing else we fast Americans undertake, the pendulum has swung too far and we are too hasty in our surgery. Before the paper is ended I hope to cite you a few cases in my own practice where a few years ago I wouldn't have rested until the patient was operated upon; to-day they are alive and well and under medical treatment and their bank account has not been depleted by some surgeon and hospital. I ask you in your discussion, and I invite your discussion and sharp criticism, to remember that this paper deals with the country doctors' cases where the only help he can get is from his brother practitioners and a trained nurse. I am not speaking as a city man who has within easy call a rubber-tired ambulance, trained assistants and a hospital at his convenience.

I would not have you think every case can be carried through without an operation, but I believe most of them can if seen early enough by the doctor and treated by *him* not by the patient's family. In support of this proposition I cite you to no less authority than Dr. Beverly Robinson of New York City, who states in *May Clinical Medicine*: "I feel convinced that in a very few years from the present time an operation for appendicitis will be extremely rare, and we shall have gained real wisdom and shall guide our patients with united advice to seek the best means of prevention and cure."

As my paper deals only with the treatment I will not go into the pathology or diagnosis.

Suffice it to say, sudden abdominal pain, at first diffuse, later localized over the appendix, nausea, vomiting and frequently constipation, slight fever, 100 to 102. The pain may be colicky and sharp or dull and aching, and may radiate in testicle or down the right leg, usually increased by movement or coughing.

Palpation, reveals localized tenderness, tumor may or may not be palpable after 24 or 48 hours. Chill may or may not occur at the outset. Our diagnosis of appendicitis confirmed, what do we expect? We expect, as a rule, that it will terminate in one of three ways: resolution, abscess or diffuse peritonitis.

Nine-tenths of our patients when we see them have been given a purgative; something to increase peristalsis, this is the very thing we wish to avoid. Once we are sure that we have appendicitis to deal with, we should get the intestines in a splint so to speak, as quickly as possible by absolute rest, nothing by mouth and opiate enough to quiet peristalsis. Of course we all have our preference in drugs. As a routine measure with me after I have made my diagnosis I give hypodermically the H. M. C. tablet of Abbott which consists of hyosine hydrate 1-100, morphine hydrobromate gr. 1-4, cactoid gr. 1-64; repeat in from six to twenty-four hours as patient suffers pain or tenderness for the bowels to move. I relieve the lower bowel with enema of glycerine and warm water allowing water to fill the bowel slowly with syringe not elevated over 18 inches, and of course have the patient use the bed-pan. Once I get the lower bowel empty (which I try to do the first 24 hours of the attack) I leave it alone except to pass a rectal tube if gas accumulates.

Locally: Ice-pack at least 45 minutes out of the hour the first 48 hours. I am aware of the fact that there is now some criticism regarding the use of ice but as stated at the beginning of this paper I am writing from personal experience and it seems to me heat would hasten the formation of an abscess, the complication we would be trying to avoid.

Treatment: Calcium sulphide to saturation for its action in limiting or preventing suppuration. If there is evidence of a severe infection usually give a combined vaccine consisting of streptococci, staphylococci, bacilli coli communis, and diplococci pneumoniae, eserine, grains 1-50 hypodermatically to control the accumulation of gas.

Diet: Absolutely nothing for 72 hours, except occasionally a sip of water. After the acute symptoms have subsided temperature becomes normal, patient's appetite returns, I then begin feeding as we would a typhoid patient, liquid food, semi-solid food and

*Read before the Henry County Medical Society.

gradually back to solid food, depending upon and being guided by the amount of distension, character of the pulse and disappearance of the tumor, etc.

This in the main has been my method of treating diseased appendices that have appealed to me for relief during the past four years. In that time I have had one operated on within 15 hours from the time of my first visit, it being his fifth attack and showing profound shock when I saw him and the operation revealed a pin-hole perforation. A fecal fistula followed the operation but in six weeks from the day of the operation he returned to his work as a blacksmith and has been well since. Two other cases were seen by me in consultation; both had been given a purgative before their doctor saw them; both were operated upon as quickly as possible and recovered after a stormy convalescence. One other case I have in mind was operated on immediately after an attack. I think that this operation was unnecessary as he made a complete recovery under the treatment mentioned above and seems entirely well. Opposed to these cases I can cite you one of a young lady whom I saw at the beginning of the attack, who ran a typical course, has since married and given birth to a child and has had no trouble since. I could mention several others who have had no trouble after being treated along the lines mentioned above. Now do not understand me to say that every case can or should be treated by the internist and not by the surgeon; but I do believe that the majority of cases is seen early, before over-anxious friends have given, or the patient himself has taken, a purgative, and if *he can be controlled* by the doctor, can be cured without surgical interference. I believe we have been in too much rush to carry our patients to some hospital. I believe they have a better chance to leave them where we find them, treating them along the lines mentioned, of course studying each case as the emergency arises and meeting it believing the middle way of wisdom between surgery and medicine is the safest for our patient.

This afternoon, at my request, we have before us a gentleman who is a very good illustration of the point I am trying to bring out in this paper. In February, 1913, Mr. S., a farmer, was operated upon by me for hemorrhoids, Dr. Zaring giving the anesthetic. He was just recovering from a moderate attack of grippe, was anemic, took the anesthetic very badly and showed considerable shock when the bowel was dilated. However, his recovery was uneventful and on April 5th he came into my office complaining of pain around the umbilicus. As he had taken a dose salts before he left home I sent him

home to bed. I saw him three hours later; his temperature was 98, pulse 50, respiration 22; abdomen very much distended and he was rolling in intense agony although his wife had given him two 1-4 grains of morphine by mouth. Tenderness most marked over the right quadrant, nausea and vomiting. I immediately put him on the treatment above. At midnight his temperature was 100 and ranged from that to 102 for four days.

This man had absolutely nothing by mouth for six days except an occasional sip of water and very little of that. After the first week's illness the tenderness began to subside; he rapidly improved and has been doing everything a farmer can find to do ever since besides building four miles of road. He has not had a sick day since and does not know he ever had an appendix. I can cite you other cases about whom some of you know that have been cured and have remained well, treated along these lines.

You may, in your discussion, doubt my diagnosis in some cases (none of us are infallible of course), and my answer to that criticism is that I have seen, and so have you I suspect, cases operated on for appendicitis when the appendix showed no evidence of ever having been irritated. I have seen other cases operated on after a severe attack where the appendix had sloughed away. It had been obliterated by the violence of the attack and would never have given any more trouble. Only last week I had a patient that required a complete hysterectomy for a multiple fibroid of the uterus. The appendix was found very much elongated and had to be dissected out of its sheath and its entire length bound down by adhesions. Evidently this patient had had a number of catarrhal attacks, but told me she had never had a doctor until she noticed this tumor due to the fibroid. Here was a case where ignorance was bliss.

In conclusion: If we can see our patients early before they undertake to treat themselves and handle them along the lines mentioned above, I believe the majority of cases will recover promptly without operation. Then teach them how to live in regard to diet, regular habits, etc. Our results will be just as good, if not better, than in the past and our patients will not delay sending for us as they do now.

Scarlet Fever.—Treatment. Salvarsan used in 109 cases. Striking effect on throat symptoms, especially in necrosing form, noted. Indicated in severe toxic forms especially. Good results even upon local application. Neosalvarsan not suitable.—Jochmann and Schreiber.

INCIPIENT PULMONARY TUBERCULOSIS.*

By A. J. BRYSON, Fullerton.

We have for our discussion to-day, one phase of the most important of all the varied ills to which the human family may ever become a prey.

Any subject involving the question or any manifestation of any part of tuberculosis, must necessarily, for obvious reasons command our especial attention and consideration, and then too, when we are considering the beginning, the incipency, the time when a correct interpretation of the condition may mean so much to the tubercular patient, a time that may mean a prolonged life of more or less usefulness, or it may mean the beginning of a premature and untimely result, especially so should the condition pass unrecognized at this time.

In many diseased body conditions, the beginning does not especially concern us, or in other words, I mean to say the future management and the ultimate result do not hold the same concern that tuberculosis does in its incipient period. If the early tubercular is left undirected, unguided and unmanaged, we can readily imagine, in fact we are made to realize the actual outcome from our almost daily observation.

The magnitude of the involved subject might be made more impressive by mentioning the fact to you, that there are something like 20,000 cases of tuberculosis in our own state at the present time. A large per cent. of these cases have passed from the incipient type, thereby adding greater risk to the uninfected and less hope for recovery to themselves.

My circumscribed observations, and my limited time in the preparation of this paper, must of necessity, forbid my entering into a detailed consideration of every particular involved, hence I shall content myself by attempting to direct our attention to some few of the most important connections. It seems useless to me to attempt to go into a review of the historical facts as regards our subject to-day, suffice it to say, however, that the profoundest consideration has been given by medical men to the study of tuberculosis throughout the various medical ages, and that one man in particular has proven the infectiousness of phthisis by animal experimentation, previous to the time of Koch's wonderful discovery. It was left, however, to the great Koch to place our understanding of tuberculosis on a much more solid foundation by his wonderful bacteriological efforts.

In considering incipient phthisis, the most important thought that occurs to my mind is that we recognize the disease before it has passed from its incipency, and also, that the study of the prophylactic side of this question is of the greatest concern. If we can impress at all the importance of these two parts of this great question our time will not have been wasted.

Etiological Factors and Causes. The fact has long since been made evident, especially by Koch and many others, that the specific cause of tuberculosis is the tubercle bacilli. There are, however, many things that help pave the way, that help to offer an invitation for the tubercle bacilli to take up their abode in susceptible lung tissue. There seems to be a peculiar susceptibility on the part of many individuals to tubercular infection, why this is so is rather difficult to explain at times, for direct heredity is not admitted only by some few, but we do know that a lowered general vitality may be handed down, the probabilities are that a general lowered resistance on the part of the patient would offer the best explanation.

The anatomical makeup can be mentioned as another predisposing reason, by this we mean chest contour, etc., thoughtlessness as regards full and free breathing, especially in those that may be predisposed otherwise, manner and mode of life, environment may be quite an important factor, habits, occupation and lack of education may all act as favorable factors under certain conditions. Diseases, especially bronchitis, pneumonia, measles, pleurisy and influenza are all important as causes at times, preparing the way for bacterial invasion by the almost ever present tubercle bacilli, foods and especially meats, can be the cause often, more so in the past than at present, milk very likely has been the means of infection in a large per cent. of instances, but at present the dairying is controlled rather carefully by municipal and state authorities, thereby making the likelihood of getting tubercular infected milk much less than formerly.

Emphasis, however, should be made of the fact that all who live with, or have the care of, open cases of tuberculosis, must be in great danger of contracting the disease; this really is nothing other than environment.

Symptomatology: The symptoms found in the incipient type are more or less indefinite, however, these indefinite symptoms should and must be considered very carefully for our patients' welfare. In a large number of instances there will be found a tired or weak feeling, especially following slight exertion, a

*Read before the Greenup County Medical Society.

peculiar pallor of face, languor, anorexia and some fever. The fever is one of the most important findings, to get a correct meaning the temperature should be taken every two hours over a considerable period of time, not losing sight of the fact that we have at times even an apyrexia, which usually occurs in the early morning hours. A continued pyrexia found to exist at more or less regular times with other suspicious symptoms should be considered and almost positive finding. The mode of onset and manner of beginning is so different in different cases, that the physician should always be keenly alert and on the lookout in all suspicious cases.

Hemoptysis is an initial symptom in quite a large number of the early cases, any case in which bleeding occurs that cannot be accounted for to the complete satisfaction of the physician should be looked upon as a beginning tuberculosis. In quite a few patients most all symptoms are referred to the stomach, possibly from having no appetite as is so often found, much care should be exercised in this class to avoid a mistaken diagnosis. Cough, usually slight in early cases, is present in practically all instances of phthisis pulmonalis; it may be so slight as to even escape notice on the part of the patient or physician, and these cases may go on to considerable lung involvement with no appreciable cough. The amount of sputum expectorated is usually very little, but the patient can often be made to recall having had to cough and expectorate at least slightly on arising. In still other instances the beginning may be with a laryngitis. A great many times the condition can be traced back to the history of a neglected "cold" or an attack of bronchitis that was not properly appreciated, this unfortunately is found to be all too true, necessitating that we ever be on our guard in all suspicious cases.

Physical Findings: "The physical signs in the initial period are very indefinite, nothing is perfectly plain at this time, our search should then be more diligent for this very reason. Inspection will often disclose a long flat shaped chest, a lack of expansion might be noted, an unusual depression above or below the clavicle will be quite frequently observed, a variation from the normal resonance or rather an impaired resonance is expected to be found. tactile fremitus might possibly be increased over that part of lung tissue involved. this is quite true if the disease has lasted for some time. Auscultation will usually reveal some very fine moist rales, found at or near the close of inspiration, the breath sounds are most often very much enfeebled or weakened. The whispered voice sounds are increased in intensity, and,

of course, all these signs and symptoms are soon to be found much increased, but that takes us away from our subject of the incipient type into the advanced stage of phthisis.

Diagnosis: That an early diagnosis in this disease is desirable cannot be contradicted, that it is not easy by any means to make a correct diagnosis in early incipient cases is also very true, but for the sufferer to secure most benefit an early diagnosis must be made, hence we should make every effort to arrive at the earliest possible diagnosis. We should ever keep in mind the word "early" when considering the question of diagnosis in initial tuberculosis. Given two or more suspicious symptoms; say the presence of a little pyrexia and even a slight loss of weight that cannot be accounted for readily. Why not call it incipient tuberculosis until otherwise disproved? It would be far better to make an error in this way that to have the case pass on unrecognized into an advanced stage. In all suspected cases, a thorough, painstaking and repeated examination of the chest should be made, going over every part of lung tissue carefully, the same process to be repeated at a number of different times. Repeated examinations of the sputum should be made for the presence of tubercle bacilli, however our diagnosis should be made if at all possible, before the bacilli have made their presence known in the sputum. Mention might be made here of the use of tuberculin as a diagnostic agent, most likely some form of the skin test would best serve the purpose for general uses, with a little experience one can readily interpret the findings, the forearm offers a convenient place for testing, cleanse thoroughly, do not use strong antiseptics, scarify at two places some little distance apart sufficient to cause serum formation, inoculate at one point by applying about one drop of tuberculin. old. The reaction may be expected within from twelve to thirty-six hours. I have merely mentioned this plan, a number of others could be used equally as well.

Prophylaxis: The prevention of tuberculosis is one of the greatest problems confronting the medical profession to-day, and also that every layman is or should be vitally concerned in this great question. The incipient case is not so dangerous during the real initial period, but when we recall that so few of the incipient cases remain so very long, and how dangerous open tuberculosis is to individual and public health in general, enough emphasis can scarcely be placed on the importance of prophylaxis as applied to this disease. It is only within recent years that an effective and organized effort has been made in the prevention of phthisis pul-

monalis. The question has been agitated to the extent that we now find thoroughly organized associations, clubs and anti-tubercular societies in most all parts of the civilized world that are making a determined fight against "the great white plague, it goes without saying that it is the duty of every physician to be in this fight, in fact it is the duty of the physicians to be at the very head of these moves in order that they may help direct this important crusade. In the rearing of children parents should use every sensible means in preventing or safeguarding the child against tubercular infection, this necessarily, presupposes the parent to be familiar with the prophylaxis of infection, which, however, is by no means true at the present time, this recalls us to state that it would be best by far to have every case of tuberculosis isolated. An especial care should be exercised over children during school life, furthermore, I believe every public school teacher should be made familiar with the fundamentals of bacteriology, at least to the extent that he could fully understand the infectiousness of this or other diseases, he could then so instruct his pupils and the resulting good could scarcely be estimated. If such tubercular patient was properly advised as to the protection of others, and would faithfully comply, one of the very strongest prophylactic measures will have been accomplished. Often the question of marriage comes to our notice in which one or both of the contracting parties are tubercular, now in so far as the theory of the matter is concerned, we have a pretty clear idea, but making it a practical proposition is another thing altogether. All cases of open tuberculosis should of course be advised strongly against marriage for many reasons, among others there would be the question of progeny, but I am not going further here, else we get into the matter of "eugenics" a question I do not care to take up in detail to-day. The employees in shops, factories, etc., should be made familiar with the many ways in which infection might come about, an excellent plan it seems, would be for them to have proper instruction along this line at stated meetings. All places used by the public should be cleaned often, made and kept sanitary if at all possible. Let us continue to live in hope that there will yet be produced a perfected product against tubercular invasion, and let us hope too, that Kentucky will soon make provision for an "all-time" health officer for each county, something that failed to receive the proper attention at the last meeting of the General Assembly.

Treatment: There is no fixed plan to follow that can be applied to all tubercular

eases alike, there is probably no disease requiring so much fact on the part of the physician as this one does, true, no doubt as a result of the long continued indisposition. It is very essential for the physician and patient to have a complete mutual understanding. So many factors come up for consideration in planning any line of management or treatment in these cases; among others would be: The family connections, the financial standing of the patient, the social conditions, the place of treatment, etc., as we understand at the present there is no known specific in the treatment of tuberculosis, there are however, a few things on which the consensus of opinion is pretty well united, viz: a life in the open air, a suitable plan of rest and exercise and a generous, well-balanced diet. I fully believe that every initial case of phthisis should have treatment in a sanatorium. More than that, every case that is physically able should have a period of sanatorium experience, not so much for the benefit of the advanced consumptive, but for the gain to prophylaxis by way of the instruction given the patient while a resident at the sanatoria. The selection of a suitable climate will not be taken up by me here, I prefer to leave that open for discussion. If our patients cannot take advantage of sanatoria treatment they should at least have the sanatorium plan of treatment. Practically all of incipient patients show the presence of fever, every patient manifesting pyrexia should have more or less absolute rest until the temperature returns to the normal point, but very little exercise should be taken for several days after the return to normal, then the plan of "rest and exercise" should be instituted. Space and time forbid of a more detailed account.

Drugs have a very minor place in the treatment of early cases of tuberculosis. Not that we want to dispense entirely with their use in these patients, for many times they can be used to advantage, but we no longer depend on medicines alone to cure patients suffering from tubercular infection. Considerable attention has been given the use of tuberculin, especially in treatment of early involved cases likely when a perfected product along this same line is produced and the indications for administration more fully appreciated, the results may be far better than those gotten from tuberculin at present. Many things have purposely been omitted in composing this article, morbid anatomy, prognosis, etc., have been left out in order to give more time to those that seemed to be of more practical value.

However, I hope you will discuss every phase of incipient tuberculosis most vigorously.

THE FORUM

To the Editor:—

If every county society had officers who would take a personal interest in the welfare of their societies, it would soon be found that they would become so vitalized that if a member who had been an absentee for some time, should happen to attend a meeting, he would scarcely know where he was. The office of secretary is of course the most important, and if he is enthusiastic and not discouraged by frequent failures, but keeps everlastingly at it, injecting a little spice and variety into his notices, his labor will be rewarded in the end by a full measure of success. I wish that more of our county societies had such an one.

The Carter County Society is fortunate in that respect as is shown by one of his recent notices which follows:

J. W. KINCAID,

Councilor Ninth District.

Grayson, Ky., April 9, 1914.—Dear Doctor: I wish to inform you that the next regular session of the Carter County Medical Society will be on the 14th inst. Please be here and especially those who have topics assigned them. We are planning an "Out of Door" session to be held at the Caves some time this summer. We can invite Dr. Kinnaid and others from Ashland and Catlettsburg out, have a day off and a jolly good time.

If Dr. H. T. Sparks will furnish us with a paper on the subject, "Physician and Surgeon a Misnomer," and Dr. Harvey Fultz on "The Feasibility of a County Hospital," and Dr. D. B. Wilcox on "Mr. Tapeworm Captured," humorous. We will have a meeting next time worth attending.

Dr. Wilcox is the only known doctor, to me, in the county that has been able to capture a real live tape worm, and if he will only tell it in his own language, it will be sufficiently humorous. Dr. Burton can give us a few pointers on catching the imitation worm, as he successfully routed a covey of Quaker fakirs, and thereby became the hero of the hour, rendering the county an inestimable service. He deserves a Carnegie medal.

The members of the society will be pleased to know that all the doctors of the county, belong to the county and State societies except five and one of them. Dr. Logan, of Kilgore, says he and his dues will be here next Tuesday.

We would be glad if those to whom topics are assigned will send in their paper, if they find they cannot be here.

Fraternally yours,

G. B. O'ROARK, Secretary.

TWO REPLIES TO DR. RAVITCH'S ARTICLE ON "SCLERODERMA," FROM PIKE COUNTY.

PIKEVILLE IS TRYING TO GET ON THE MAP.

Some time ago there was a letter printed in the JOURNAL, under the above caption, written by one of our medical friends from the city of Louisville, to-wit: Dr. Ravitch. He says, "Pikeville is trying to get on the map" because there happens to be a case of "scleroderma" in the town, and the patient, a child, who was in no wise responsible for having the "disease" and not even responsible for its being here. The doctor refers to this as being a "common disease", which is not true as this disease is not common in Kentucky, neither is it common in any of the adjoining states. He makes a few rash assertions then copies the balance of his article from the authorities which have given a good description of the disease in question, most doctors prefer the text-book "reading" to that of a "medical journal" article if it is to be copied as the one referred to has been done. The only article worth reading is one containing the facts and what the doctor has learned by actual experience at the bed-side, it is not worth while to write an article and copy all except a few unfounded assertions. There are something like (4000) physicians in Kentucky, very few of which ever saw a case of "scleroderma." I venture the assertion that 90 per cent. of the physicians of Kentucky including the City of Louisville, never saw a case of the asserted "common disease," scleroderma.

The purpose of this letter is that I want the medical profession to think, and think, and think, and know, that all the "fools" in the medical profession don't live at Pikeville, and in the mountains of Kentucky, either, what do you say, members of the profession? We of the mountains have always heard the expression used "quack doctors," and we believe this applies to the "fellow" who was trying to practice medicine without being prepared, or qualified to practice medicine, in any of its various branches. The above applies to the Louisville "man" only, if his practice corresponds to his writings. If he is not a "quack" the best proof to the profession would be for him in his next article to eliminate the "text-book" part of his article and tell us what he really knows, and what he has done himself while he has been in the medical profession. I want to say further if a little "sense" is good for the country doctor a little more would be good for a "specialist" living in the metropolis of a great State,

like we have in Kentucky, as the specialist should be one in whom other people living in rural districts could depend on for advice in his line.

In conclusion I wish to say for the benefit of the "Louisville Specialist" that Pikeville now has a permanent place on the map, and that it is located on the banks of the "Big Sandy River," and that people even live beyond Pikeville, many of which places the "specialist" would do well to visit, that he may become a "wiser and better man."

With all due respects for the specialist, I am,

Yours truly,

H. H. Stallard, M. D.

Pikeville, Ky.

May 6th, 1914.

In reply to an article of April 1st, written by Dr. Ravitch will say that it is a great pleasure to have a little article published in so great a journal as the official organ of the Kentucky State Medical Association, but I certainly had a different feeling when I read the article "What We Know About Scleroderma." Dr. Ravitch makes the assertion when beginning that every practitioner runs across cases of scleroderma, I will not answer that statement as every member of the Kentucky Medical Association knows that is false.

I spent four years in the Medical Department of the University of Louisville, and I observed a few things but never saw a case of scleroderma during the whole time.

The Pikeville case of scleroderma was on exhibition at the meeting of the Southern Medical Association at Lexington and some of the greatest dermatologists of the South failed to recognize it. The faculty of the University of Louisville, and I'm proud to be numbered among her alumni for she is the greatest medical institution in America, recommended to us that there was no better text-book, for the general practitioner than Stelwagon.

On page 553 under Etiology, Stelwagon says, both types of scleroderma are infrequent, the diffuse type is rare, the circumscribed variety much less so.

Dr. Ravitch would have us think that the Pikeville case, being a child, is possibly a case of sclerema neonatorum but this child is 8 years old and only developed this disease one year ago, that I think he will find that the word neonatorum wouldn't apply, and also (page 559) Stelwagon says sclerema neonatorum is extremely rare.

Whether Pikeville is trying hard to get on the map I am not able to answer, but she has the location, she has the fertile soil, and Pike county has any other county "skinned a

bloek" when it comes to mineral wealth, and if you don't think her women are pretty ask our worthy State Registrar, W. L. Heizer. He knows.

Now, just a word in closing, I can't believe that Dr. Ravitch ever saw or could even recognize a case of scleroderma and for his benefit, we will have the little child at Pikeville, when the Pike County Medical Association meets on the first Monday night in June.

P. C. SANDERS.

NEWS ITEMS AND COMMENTS

The Boyd County Health League was organized about three months ago, and on April 14th opened in Ashland a free dispensary for the treatment of tuberculosis patients. They have employed an efficient visiting nurse, in the person of Miss Bogard, and the medical service is being attended to by assignment of its members by the Boyd County Medical Society.

Dr. A. P. Banfield of Catlettsburg, was in New York, doing some post-graduate work in his specialty, eye, ear, nose and throat. He returned about May 10th.

Dr. G. W. Moore, of Ashland, has recently accompanied one of his patients to Rochester, Minnesota, to consult with Dr. Mayo with reference to an operation for goitre.

THE WALKER HOSPITAL.

Our readers will note that the Evansville Sanitarium has changed its name to the Walker Hospital. We are glad to call attention to this change as it shows a recognition of the worth of one of the best men and most skillful surgeons in the country. Kentucky is to be congratulated that it is near enough to have access to Dr. Walker's work.

Alimentary Galactosuria.—Maliwa tabulates the findings in twelve cases of liver disease, in ten of orthostatic albuminuria, and twenty-one other patients, after ingestion of 40 gm. galactose, fasting. The data demonstrates that intolerance for galactose is by no means an unequivocal symptom of insufficiency of the liver. The kidneys often have something to do with it. When the latter is the case, the galactose elimination begins abruptly and in large amounts, dropping off equally abruptly. With insufficiency of the liver, the curve of elimination is generally more protracted.

COUNTY SOCIETY REPORTS

Adair—The Adair County Medical Society came out from its winter quarters on May 14th, 1914, invigorated by its long winter nap, and met in Dr. Cartwright's office with the following members present: S. P. Miller, President; U. L. Taylor, Secretary; W. R. Grissom, E. T. Sallee, W. F. Cartwright, C. M. Russell, Garland Grissom, N. M. Hancock and B. J. Bolin. We were encouraged by two distinguished visiting brethren R. H. McChord, of Lebanon, and J. S. Lock, of Barboursville. The meeting was called to order at 2 P. M., and there being no special business outside the program, it was called. The first on the program was a paper by **S. P. Miller** on "Diphtheria." It was a very exhaustive paper, well received, well prepared, and very much appreciated, and discussed by all the members present, and the two visiting members. The next paper was by **R. C. McChord** on the "so-called non-operable cases of cancer of the cervix." It was a splendid paper, and well illustrated. It was freely discussed, and all the members were much pleased at the doctor's fine success that he reported from his manner of treating this terrible disease.

At night there was a public meeting at the court house, with a full program, and all who were on it present. But in view of the fact of the importance of the subject assigned to Dr. Lock, all the others gave way to him, and he occupied the entire evening on "Preventive medicine" and gave one of the best lectures that has ever been heard in Columbia. There was a good audience but not half what it ought to have been. But every one present was pleased and benefitted. He gave much of his own experience in the Kentucky Mountains, illustrated by stereopticon views. It was unfortunate that the fiscal court could not be present, and had he lecture, they would have been more liberal to the health work than the courts we have heretofore had. It certainly did great good to the people of Columbia, and they will be a long time forgetting it.

U. L. TAYLOR, Secretary.

Carter—The Carter County Medical Society met in regular session at the office of Dr. G. B. O'Roark in Grayson, May 11, 1914, with Dr. J. L. Lyons in the chair. After drafting resolutions of respect and condolence relative to the death of our honored friend and fellow doctor, D. B. Wilcox, who departed this life on April 25, the society transacted its regular business. Talks were made by the members on various topics. Typhoid, and its prevention, was discussed at length by Dr. J. W. Kincaid, of Catlettsburg, who was kind enough to honor us with his presence. He also gave an interesting talk on alley cleaning and the disposition of animal car-

cases which we think it would be well to publish in pamphlet form and distribute widely over the state.

But the paper of the day was the one he read on "A Plea for Greater Accuracy in Diagnosis." We have never heard anything better or more appropriate. It was so highly appreciated that the society, on motion of Dr. J. W. Strother, tendered to Dr. Kincaid a vote of thanks and requested him to forward his paper to the Journal for Publication.

No further business appearing, the society adjourned to meet at Stamper Hotel, June 16. Every one went away feeling richly rewarded for having taken a day off.

Resolutions.

Whereas, God in His infinite wisdom has called from among us our beloved confrere, D. B. Wilcox who for several years has been a busy, successful practitioner, Therefore, be it

Resolved That in the death of our esteemed associate the Carter County Medical Society has lost one of its most loyal and useful members, the community one of its most progressive and valuable citizens and the bereaved family a devoted husband and an affectionate and indulgent father.

Resolved, That the society tender to his wife and children our deepest sympathy and for consolation, commend them to Him who doeth all things well.

Resolved, That we manifest the esteem in which we held our departed fellow practitioner by presenting a copy of these resolutions to the bereaved family and sending a copy to the local paper and the Journal of the Kentucky State Medical Association for publication.

W. A. HORTON,
J. W. STROTHER,
J. L. LYON,

Committee.

G. B. O'ROARK, Secretary.

Cumberland Valley—The Cumberland Valley Medical Society met at the Majestic Opera House, Corbin, on Thursday, March 26, 1914, with about 500 members of the laity present at the afternoon session and the following members of the society: W. F. Bogness, Louisville; W. L. Heizer, Bowling Green; A. D. Wilmoth, Louisville; T. J. Ballard, J. F. Wilder, J. H. Parker, B. J. Edwards, G. G. Edwards, W. C. Bryant, J. F. Bryant, W. M. Cox, of Corbin; H. S. Pitman, East Bernstadt; J. W. Parker, Grays; O. P. Nuckols and J. G. Foley, Pineville; C. A. and E. S. Moss, L. O. Smith, Williamsburg; J. S. Lock, Barboursville; P. E. Bryant, J. B. Mason, H. V. Pennington, and G. S. Brœck, of London; P. E. Giannini, Dorothy; L. M. Scott, J. L. Heferman, and Jim Richmond, of Jellico, Tenn.; F. R. Burton, Watlick; J. S. Owsley, Lilly; L. S.

Siler, Woodbine; M. Pennington, Bertha; George Corum, Wilton

The program was opened by a speech of welcome by B. J. Edwards of Corbin, and was followed by a response by O. P. Nuckols.

W. F. Boggess then gave an excellent talk on "The Relationship of the Physician to the Public," showing us how to eliminate worry and were a perpetual smile. Discussion by H. V. Pennington and others.

And though we were very much disappointed that Dr. McCormack could not be with us, we were more than pleased with W. L. Heizer, whom he sent to represent him. Dr. Heizer gave us a very instructive talk on some of the needs of the times, especially in regard to the present system of education in our schools which teaches the student practically nothing of the laws of health and the need of the medical inspection of schools and an all-time health officer, and was enthusiastically responded to by the laity when he requested that those who would be willing to pay ten cents a head for an all the time health officer to rise to their feet. Discussion by A. D. Wilmoth, E. S. Moss and J. G. Foley.

J. H. Parker then gave us a paper on some of the finer points in "Appendicitis," which was one of the best papers of the day. Discussion by J. L. Hefferman, E. S. Moss, A. D. Wilmoth, W. F. Boggess and by J. H. Parker in closing.

At this time the afternoon session was adjourned to the banquet hall at the Wilbur Hotel where the Corbin Medical Society entertained the visiting doctors with the usual Kentucky hospitality. J. H. Parker acted as toastmaster, then, after several "new ones" we got down to business again and saw the unseen with J. B. Mason in his paper, "Some Uses of the X-ray as a Diagnostic Agent," and the excellent pictures accompanying it. Discussion by L. M. Scott and T. J. Ballard.

D. M. Pennington, in the next paper, established his reputation as an artist in word painting in his paper, "The Country Practitioner and Cut Fees," his paper was heartily enjoyed by every one. Discussion by B. J. Edwards, C. A. Moss, L. S. Siler and J. W. Parker.

A. D. Wilmoth read the next paper, "Diagnosis of Cancer of Breast." It was an unusually good one, and contained a wealth of information and instruction mined from the storehouse of a wide experience and close observation. Discussion by W. M. Cox and others.

Those present decided to make this a permanent organization, with June 4, 1914, Corbin as the time and place of next meeting. The following officers were elected:

President, J. H. Parker, Corbin, First Vice President, J. G. Foley, Pineville; Second Vice-President, H. S. Pitman, East Bardstadt; Secretary and Treasurer, C. A. Moss, Williamsburg.
C. A. MOSS, Secretary.

Henderson—The Henderson County Medical Society met in regular session at the rooms of the Commercial Club and a good attendance was on hand. Dr. Poole presided over the meeting.

J. W. Cooper read an interesting paper on "Intestinal Indigestion." This timely subject was handled well by the reader. The most prominent feature was "Milk supply as related to infant feeding" and "the excessive infant mortality." The paper elicited a free and full discussion by the following members: Drs. Dixon, Royster, Letcher, Galloway, Poole, Ligon, Forwood, Floyd, Hancock, Neary. Dr. Cooper in closing said he hoped the health officer would exert more immediate supervision in the matter of milk supply. The meeting then adjourned to re-assemble on May 25th, 1914.

B. J. NEARY, Secretary.

Graves—The Graves County Medical Society met at H. A. Shelby's office Tuesday, March 31st, with a very large attendance of the physicians of the county.

The meeting was called to order by President Jno. L. Dismukes. The minutes of the last meeting were read, approved and adopted.

G. T. Fuller read a paper on "Lobar Pneumonia." This was a most excellent paper and was received with much interest by the doctors. It was discussed by Drs. Hunt, W. E. Merritt, Shelby, Puryear and Dismukes.

H. A. Shelby read a paper on "Veratrum." The doctor handled his subject very thoroughly and brought out some points that will be worth while to remember. General discussion of this subject by the society.

Mrs. Cora Beck, Registrar, read a paper on "Vital Statistics." This was a very interesting paper. The essayist brought out some very important thoughts, urging the doctors of the county to co-operate with the registrars and to make their reports of death and births promptly and with the greatest care as to the cause of death. Mrs. Beck bears the distinction of having the best report of any registrar in the State, and she said this was due to co-operation of the physicians in her district.

Next came the election of officers for the year 1914, as follows:

J. H. Shelton, President; M. W. Hurt, Vice President; G. T. Fuller, Treasurer; H. H. Hunt, Secretary.

Committee on Credentials, Drs. G. T. Fuller, chairman, J. C. Puryear and W. J. Shelton.

Delegates to Convention—Drs. J. L. Dismukes; M. W. Hurt, alternate.

Upon invitation of Dr. W. E. Merritt, the society is to meet at Fancy Farm, Thursday, May 28, 1914.

The society extends to Hale & Gilliam, the popular druggists, their sincere thanks of appreciation for their kindness while in session.

There being no further business the society then adjourned.

H. H. HUNT, Secretary.

Greenup—The Greenup County Medical Society was held at Russell, on May 7, 1914.

A. J. Bryson, of Fullerton, read a paper on "Incipient Pulmonary Tuberculosis."

E. E. Fitch, of Russell, read a paper on "Tuberculosis of the Hip Joint."

A. P. HUNT, Secretary.

Greenup—The Greenup County Medical Society was held at the Davis Hotel, at Fullerton, on April 2, 1914, at 3:00 p. m.

Members present, H. T. Morris, A. S. Brady, C. E. Vidt, E. R. Fitch, M. W. Meadows, A. J. Bryson, W. E. Nichols and A. P. Hunt.

H. T. Morris read an excellent paper on the "Symptoms, Diagnosis and Medical Treatment of Pleurisy."

A. P. Hunt read a very interesting paper on the "Surgical Treatment of Pleurisy."

The discussion was opened by A. S. Brady, followed by C. E. Vidt, A. J. Bryson, W. E. Nichols, E. R. Fitch, M. W. Meadows, and closed by H. T. Morris and A. P. Hunt.

"How To Make a Better Society," was discussed by all members present.

After the meeting was over the members were served with luncheon at the hotel.

A. P. HUNT, Secretary.

Harrison—The Harrison County Medical Society met in regular session May 4, in the office of Drs. Givens, Wells & Moore. At this meeting twenty members were present. The minutes of the last meeting were read and approved.

N. W. Moore, reported a case of pneumonia treated with hypodermic injections of camphor and oil with apparent relief from toxemia and reduction of temperature, after two or three doses had been administered.

W. H. Carr reported two cases of difficult labor that were delivered with forceps. These cases were discussed by Drs. Rees, Wells, Carr and Moore.

W. H. Carr read a paper on "Prevention and Control of Contagious Diseases in Children."

L. S. Givens read a paper on "Influence of the Olfactories on Digestion."

These papers elicited a lively discussion in which Drs. Wells, Martin, Rees, Wood, Smiser, Moore and Carr participated.

The meeting adjourned to enjoy an elegant smoker-lunch, the guests of Dr. Givens. This feature was very much enjoyed. Dr. Givens is a past master in entertaining and every one departed with a warm spot in his heart for the genial doctor.

W. B. MOORE, Secretary.

Muldraugh Hill—Meeting called to order by President Pope in the City Hall at 10:20 a. m., about twenty members being present. Reading of the minutes being dispensed with, the Society heard the report of the Committee on Constitution and Geographical change. After the Committee had read the Constitution as a whole it was adopted, article by article, and finally as a whole. It is understood that this Constitution binds the Society and takes precedence over all former Constitutions and By-Laws. The Committee further recommended that as the doctors of Meade and Breckinridge took no interest in the Society, and as they had no way of conveniently attending the meetings, that these counties be dropped from the roster and the Counties of Warren and Barren added. Upon a vote this recommendation was adopted. The Secretary was instructed to notify the doctors of these two counties of this fact.

A. O. Pfingst reported an interesting case of a very large naso-pharyngeal polyp that extended down into the pharynx. Discussed by Drs. Hall and Hester, and in closing by Dr. Pfingst.

A. D. Willmoth reported a case of a large infected kidney containing a large stone.

G. C. Hall presented pictures of two cases of unilateral trachoma, one a case of a boy eleven years of age with well developed granulations, the other a young lady whose disease had existed over six years. Discussed by Dr. Pfingst.

C. W. Hibbitt reported a case of tubal pregnancy seen in consultation, in which operation was done before rupture. Discussed by A. D. Willmoth, who made point that when hemorrhage occurs patients do not usually bleed to death as was once feared.

H. N. Leavell spoke of ectopic gestation first on one side, then on the other. Temperature due to absorption of fibrin ferment or fibrinogen.

J. H. Peak thought tube had ruptured, but that it had been held intact by folds of broad ligament. Pain due to distention. Thought complete absorption could occur and complete restitution take place. Care should be taken in making an examination as rough handling may cause rupture. Patients may bleed to death.

G. W. Hibbitt in closing took issue with Dr. Peak, first that this had ruptured and been inclosed in broad ligament. Thought that also tubes are capable of large distention. Thought cases of severe hemorrhage were due to rupture of tube.

J. H. Hester read a case report of Steel in eyeball and method of removal. Discussed by Dr. Hall, who thought Dr. Hester's method similar to that reported by Dr. Jackson, of Denver. In doubtful cases in poor people with large families enucleation was preferable, while in patients of considerable means who can afford to take the time, conservative treatment should be adopted.

A. O. Pfingst thought that outlook after giant

magnet operation was gloomy, and reported cases of late degeneration. Thought eyes with injuries of ciliary body should be enucleated.

Curran Pope explained the methods of localization in cases of foreign body in the orbit.

Adjournment at 12 N. for dinner.

Society re-assembled at 1:30 P. M. for scientific work.

A. D. Willmoth read an essay on the diagnosis and early removal of cancer of the breast demonstrated with lantern slides in natural colors.

Discussion opened by Dr. Peak. Must remember that all tumors of breast must be dealt with as if they were malignant. Must make a very wide incision to avoid recurrence and without regard to closure of wound. One should pay particular attention to the removal of all fascia of muscles. Skin grafting in slow healing wounds. Begin at axilla and work downward and inward. Advantages in control of hemorrhage and preventing metastasis. One should never have any instruments, hands, or any material that has touched the growth touch the wound surface.

H. N. Leavell acknowledged the compliments paid, by the essayist and previous speaker, to his brother-in-law, Dr. Rodman. He detailed the incision as now practiced by him. Made a practically bloodless field. Condemned the Jackson incision.

With the mortality of this disease so high and the results of delay so disastrous one should act promptly and carefully; clean out all tissue at all suspicious. Make the diagnosis afterward if necessary. If case is malignant you are on safe side. If innocent your operation has done no harm.

C. W. Hibbitt asked if there were any reason why any tumor of breast should be left. We should be very careful in cleaning out axilla.

Curran Pope spoke of the efficacy of the massive high frequency current in preventing recurrence or treating the wound to promote closure. Spoke of the high frequency current in removal of papillomata and similar growths in the closed cavities. Spoke of the Abderhalden sero diagnosis of malignancy. Has had good results with applications of the X-ray with a very hard high tube. Thinks it does a great deal of good after operations not before.

A. D. Willmoth in closing spoke of the transplantation of cancer cells to other parts of the body of the patient if the same knife were used that made the primary decision. Make a complete removal at the one operation. It is a mistake to do a secondary operation in but a few days afterward. Pathologist should be on hand to make frozen sections and give an immediate report. Must always clean out axillary space. Thought that it was an advantage to leave pectoral muscles. Objected to by Drs. Leavell and Peak who asked of what good it would do to remove part of the fascia as metastasis occurred

through that channel. Spoke of Dr. Bambridge's work with high frequency currents and fulguration. Also the implantation of radium gelatin in the wound. Injection of aseptic fluid in cases of cancer had done very little good.

Charles Hibbitt read a paper on the Complications of Pelvic Operations.

J. H. Peak in opening the discussion thought vomiting much less frequent than formerly. Frequently neurotic or psychic. Doesn't believe in fasting patients and gives water to within five or six hours after operation. Believes in washing out stomach frequently. Has never had hemorrhage following abdominal operations. Gas pains are very troublesome, thought fasting made it worse. Advocated early use of rectal tube. Had seen acute suppression of urine following even simple operation. Thought it due to the ether. Thought it practically impossible to prevent infection if patient had to be catheterized often. Did not like boric acid in cystitis.

A. D. Willmoth spoke of the vomiting following operation due to acidosis and one should fill patients' stomach with weak lemonade.

In post-operative peritonitis mop out with 2 1-2 per cent. solution alcoholic of Iodine and put patient in Murphy position.

Curran Pope called attention to the fact that whiskey is not a stimulant, but is toxic, depressant, and anaesthetic.

C. W. Hibbitt in closing still maintained that whiskey had a place as a stimulant; thanked the members for their discussion.

E. F. Horine read an essay on the Duties of the Anaesthetist.

H. N. Leavell opening the discussion spoke of the change in medical practice since he first graduated and at the present day when there is the specialist in anaesthesia

A. D. Willmoth spoke of the importance of this subject and the importance of selecting a competent man to give the anaesthetic and let him select his drug. Spoke of the importance of the quiet personality of the anaesthetist and careful watchfulness of the anaesthetist of the blood pressure.

J. H. Peak thought the subject of extreme importance; spoke of the decorum to be maintained in the operation. Avoid loud talking, joking, etc., about the operation.

G. C. Hall complimented the paper of Dr. Horine and bore testimony to his skill as an anaesthetist as Dr. Hall had taken an anaesthetic administered by him the previous summer. It was quiet and easy, without a single disagreeable symptom or remembrance such as some people complain of. Neither did the ether have any disagreeable after effect when he again got back to work and began operating. Thought these happy results largely due to Dr. Horine's skill and training in handling the anaesthetic.

A. O. Pfingst told some personal experiences of

anaesthesia. Thought it could be made very disagreeable by an untrained man. Though easy manners, quiet decorum was great importance to the patient.

H. N. Leavell again spoke, explaining that in rural districts one man should be selected and trained to give anaesthetics.

Curran Pope interpreted the psychology of the patient's mind during the period of anaesthesia. Anaesthetic room should have quiet, appealing furnishings. There should be no crowd and no talk. Anaesthetist should have a quiet, appealing voice while every effort should be made to lull the patient into a sense of security, avoiding all sight of instruments, etc.

E. F. Horine in closing stated that in answer to Dr. Pfingst that while chemically the purified products should be the same he had found that it seemed to take less of the Squibb products than of other makes.

In small towns one man should be trained as an anaesthetist. Hearing is last sense to be abolished but is so in complete surgical anaesthesia.

At the close of the discussion the names of Drs. J. H. Peak and E. F. Horine were regularly presented to the Society and unanimously elected members.

There being no further business before the society adjourned to meet again in August

G. C. HALL, Secretary.

CONSTITUTION OF THE MULDRAUGH HILL MEDICAL SOCIETY.

Article 1.—Name.

The name of this Society shall be the "Muldraugh Hill Medical Society."

Article 11.

The object of the Society shall be, first, to promote good will among its members.

Second, to stimulate and maintain an active interest in the science of medicine and surgery and to encourage among its members careful and conscientious work along those lines.

Article III.—Officers and Their Duties.

Section 1. The officers of the Society shall consist of a President, one Vice-President for each county composing the Society, and a Secretary-Treasurer, elected for one year or until their successors qualify.

Sec. 2. It shall be the duty of the President to preside at all meetings of the Society; to call special meetings at any time he may deem proper or at the written request of seven members of the Society.

Sec. 3. It shall be the duty of the Vice-Presidents, one to preside in the absence of the President; this Vice-President to be selected in alphabetical order of counties; to keep alive an active interest in the Society, particularly in his own county, and to endeavor to enlist the sym-

pathy and active support of all reputable physicians who come within his sphere of influence. He shall co-operate with the Secretary in arranging for program for the meetings by personally seeing members in the county and endeavoring to get them to prepare papers or case reports.

Sec. 4. It shall be the duty of the Secretary-Treasurer to keep all records of the Society; to preserve an accurate copy of the minutes and transactions and see that same are published regularly in the Kentucky State Medical Journal.

He shall keep an accurate account of moneys of the Society received by him as dues or in payment of advertisements in the program, such money to be used by him in defraying the legitimate expenses of the Society.

He shall each year at the annual meeting submit a written report of the financial affairs of the Society which shall be submitted to the Executive Committee for auditing and approval.

Article IV.

Section 1. There shall be an Executive Committee consisting of the President of the Society and two other members elected by the Society.

Sec. 2. It shall be the duty of the Executive Committee to exercise general supervision over all the affairs of the Society: to lay before the entire membership from time to time such matters as in their judgment require its action; to look after the interest of the Society and exert themselves for its benefit and advancement; to audit the accounts of the Secretary-Treasurer following his annual report.

Sec. 3. Vacancies in the Executive Committee shall be elected by the Society at its next regular meeting.

Sec. 4. One member of the Executive Committee shall be elected for three years, and one for two years.

Article V.

Section 1. The meetings of the Society shall be held on the second Thursday in April, August, and December.

Sec. 2. The meeting place of the Society shall be Elizabethtown provided, however, that upon invitation to meet in another town the meeting for that invitation may be changed by a two-thirds vote of the members present.

Article VI.

Section 1. The annual meeting of the Society shall be in December at which time an election of officers shall be held and the annual reports of the former officers presented.

Sec. 2. Election of officers shall be held in the following order. President, Secretary-Treasurer, member of the Executive Committee.

Sec. 3. Election shall be by ballot except by unanimous consent. A majority of all votes cast is necessary for election. In the event that more than two men are nominated for an office after

first ballot low man will be dropped.

Sec. 4. Nominations for office are made orally.

Article VII.—Membership.

Section 1. Applications for membership. Any member may propose the name of a reputable physician for membership. It must be submitted in writing and seconded by another member. The name is then presented to the Society and a ballot taken. Three negative votes shall exclude a candidate.

Sec. 2. Membership in the Society shall be of two classes, active and honorary.

Sec. 3. Active membership. Any reputable physician residing in the counties of Jefferson, Bullitt, Hardin, Nelson, Larue, Grayson, Marion, Taylor, Green, Hart, Barren and Warren, may be elected an active member of the Society.

Sec. 4. Honorary members are such physicians who distinguished by prominence in the medical profession or long and faithful work in the Society the Society desires to honor by electing to that order.

Honorary members are elected by a three-fourths vote of the members present. They are entitled to all the privileges of the society except the right to hold office and are exempt from dues.

Sec. 5. Active members shall pay to the Secretary-Treasurer one dollar a year as dues in January of each year.

Article VIII.

The fiscal year of the Society extends from January 1st to December 31st.

Article IX.

Section 1. Ten members present in person at a meeting shall constitute a quorum for the transaction of business.

Sec. 2. Special meetings may be called by the President at his discretion and must be called by him when requested in writing by seven or more members.

Article X.

Amendments of this Constitution and By-Laws must be submitted in writing at a regular meeting of the Society, after which all members shall be notified in writing of the proposed amendment, which shall be brought up for consideration at the next regular meeting. A two-thirds vote of the members present shall be necessary for adoption.

Article XI.

Section 1. The following order of business shall be observed at all meetings of the Society. Call to order; reading of minutes; unfinished business; (reports of officers; reports of Committees; election of officers, at annual meeting); new business.

Sec. 2. Scientific Program. Presentation of new instruments. Presentation of clinical cases or specimens. Case reports. Essays. Miscellaneous business. Adjournment.

Sec. 3. Case reports and essays must be submitted in writing, preferably typewritten, on one side of the page only. In short, articles presented to the society must be in shape for publication. After being read they are the property of the Society.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, with the following members present: P. N. Blackerby, Chipman, Clark, Daugherty, Ecklar, McKenney, J. Ed Wilson Woolery.

The meeting was called to order by J. Ed Wilson president, and after roll call and a reading of the minutes of previous meeting, we proceeded to the business of the day. After transacting the routine of business, we had a report of Clinical Cases, as there was no essayists ready. We had some very good reports of clinical cases.

We then adjourned.

W. A. McKENNEY, Secretary.

BOOK REVIEWS

A Treatise on Diseases of the Skin.—For the use of advanced Students and Practitioners. By Henry W. Stelwagon, M. D., Ph. D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Seventh edition, thoroughly revised. Octavo of 1250 pages, with 334 text-illustrations, and 33 full-page colored and half-tone plates. Philadelphia and London: W. B. Saunders Company, 1914. Cloth \$6.00 net; Half Morocco, \$7.50 net.

It is hardly necessary to remind the readers of this review that seven editions of Stelwagon's Diseases of the Skin speak more for its popularity and practicability than any original review. This language is clear, simple and easily understood. The symptoms are given in detail and differential diagnosis is made comparatively easy. The treatment is carefully considered and practical. It is unhesitatingly recommended to the general practitioner and specialists.

The Principles of Pathologic Histology.—By Frank B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School and Pathologist to the Boston City Hospital. Octavo of 677 pages, with 497 figures containing 683 illustrations, 124 in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50 net.

Pathology has come to occupy such a prominent part in the consideration of cause of diseases and their cure that this book most likely will supply a long felt want. An accurate conception of the pathology of any tissue en masse can only be acquired by an intimate and thorough knowledge of the changes in its cellular composition. The purpose of this book is to supply such a knowledge of pathologic histology that comprehension

of lesions fully or partially developed become plain.

A Text Book of Physiology.—By Isaac Ott, A. M., M. D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia, etc. Fourth edition, revised and enlarged, illustrated with forty-three half tones and other engravings, many in colors, by F. A. Davis Company, Philadelphia.

The chapters on blood circulation and metabolism have been entirely revised. Respiration and glands with an external secretion have been revised to a considerable extent. It is a standard text book on Physiology.

Materia Medica, Pharmacology, Therapeutics and Prescriptive Writing.—For Students and Practitioners. By Walter A. Bastedo, Ph. G., M. D., Associate in Pharmacology and Therapeutics at Columbia University. Octavo of 606 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$3.50 net.

This book is a compilation of lectures delivered at Columbia University, with certain editions. Considerable stress being laid upon those things that have a direct bearing on practice. It is not too technical and is of real worth to the practitioner.

Medical Gynecology.—By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third Thoroughly Revised Edition. Octavo of 790 pages, with 150 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

In these days of gynecological surgery the general practitioner is made to feel at times as if there was nothing left for the doctor to do and yet it is well known that the medical gynecologist has a great field of usefulness if the physician will but prepare himself for this work. This book is entirely fair to the surgeon but gives to the general practitioner his right and just due. It is certain that the general practitioner can increase his practice of diseases of women materially by making himself more familiar with this subject and this volume seems to contain about all that is needed.

Principles of Surgery.—By W. A. Bryan, A. M., M. D., Professor of Surgery and Clinical Surgery at Vanderbilt University, Nashville, Tennessee. Octavo of 677 pages with 224 original illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$4.00 net.

This book forms a clear exposition of the subject; is well illustrated, practical, not too technical and an all-around good book.

The Practice of Pediatrics.—By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Octavo of 878 pages, 139 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This book is the outgrowth of a demand upon Dr. Kerley for more extensive work on diseases of children. It is in every way equal and even superior to his former book on diseases of children and doubtless will find its way into many more doctors' libraries than its predecessor.

Development and Anatomy of the Nasal Accessory Sinuses in Man.—Based on 290 lateral nasal walls, showing the various stages and types of development from the sixtieth day of fetal life to advanced maturity. By Warren B. Davis, M. D., Corinna Borden Keen Research Fellow, Jefferson Medical College, Philadelphia. Octavo of 172 pages with 57 original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth \$3.50 net.

This is a splendid volume. The illustrations are superb, the text comprehensive and it is of special value to specialists and contains a great deal of real benefit to the general practitioner.

A Text-Book of Physiology: for Medical Students and Physicians.—By William H. Howell, Ph. D., M. D., Professor of Physiology, Johns Hopkins University, Baltimore. Fifth Edition Thoroughly Revised. Octavo of 1020 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$4.00 net; Half Morocco, \$5.50 net.

Recently we had occasion to review the fourth edition of this book. It was then strongly commended. The fifth volume is a decided improvement and brings the subject matter entirely up to date. It is probably the last word in its treatment of principles of Physiology.

The Text-Book on Anatomy and Physiology for Nurses.—By Amy E. Pope, with 135 illustrations, published by G. P. Putnam's Sons, New York. Price \$1.75.

This book of 500 pages is chock full of facts essential to the practice of nursing and doubtless will receive, as it deserves, a ready sale.

Volumes 7, 9 and 10, Practical Medical Series, 1913.—Published by Year Book.

Volume 7 on Obstetrics by DeLee, deals with the physiology, diagnosis and pathology of pregnancy, abortion, pathology of labor and operative obstetrics. It is worth while.

Volume 9 on Skin and Venereal Diseases, miscellaneous, by Baum and Moyer. This deals with dermatoses in constitutional infections, therapeutics of the dermatoses, gonorrhoea and syphi-

lis and genito-urinary medicine. In the back appears literature on medical history, sociology and eugenics.

Volume 10 by Patrick Bassoe, on Nervous and Mental Diseases. This volume deals with the neuroses, diseases of the brain, meninges, the cord, the peripheral nerves, dementia precox and parietic dementia and traumatic insanity.

Posture of School Children, with its Home Hygiene and Efficient Methods for School Training.—By Jessie H. Bancroft, Assistant Director Physical Training Public Schools, New York City, published by the McMillan Company, New York. Price, \$1.50.

This book is so full of practical suggestions of useful information that it would be difficult to specialize in a short review. It should be in the hands of every school teacher and parent that they might be fully efficient in caring for the health of the children by securing better cooperation between the home and school. Physical training especially in the cities is left largely to the schools which sometimes fail in their duty with the result that the health of the child is seriously handicapped.

The illustrations alone teach valuable lessons.

A Text-Book of the Practice of Medicine.—By James M. Anders, M. D., Ph. D., LL. D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia Eleventh Edition Thoroughly Revised. Octavo of 1335 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$5.50 net; Half Morocco, \$7.00 net.

The popularity of Anders Practice of Medicine warrants this the eleventh edition. A review of its treatment of the diseases, knowledge of which has undergone a change in recent months, shows that it has been thoroughly revised and brought up to date.

Case Histories in Pediatrics.—By John Lovett Morse, A. M., M. D., Boston, and published by W. M. Leonard, Boston. A unique book, arranged under twelve headings. The first, "Normal Development and Physical Examination of Infants and Children," takes up 62 pages, and is well written.

When you read on page 50 this sentence, "They are, moreover, not a sign of an admixture of negro blood, but merely of the persistence, in a rudimentary form of a functional layer of pigment cells in our ancestors, the monkeys," don't become disgusted and shelve the book for by so doing you would miss a great deal of useful information. Under the other eleven headings, i. e. "Diseases of the Gastro-Enteric Tract," "Dis-

eases of Nutrition," "Specific Infectious Diseases," etc. etc., 200 cases are reported giving full history, physical examination, diagnosis, prognosis and treatment in every case. If you read the book through carefully you will be as well prepared to practice medicine among children as you could be from reading books. For the beginner the book is a boon, for the older practitioner quite a help. The type is all that could be desired.

J. J. RODMAN.

Gonorrhoea in Women—By Norris. Published by W. B. Saunders Company, Philadelphia. This book is a complete exposition of the subject and embraces practical treatments from a medical and surgical aspect

Glycosuria and Diabetes—By Allen. Published by W. M. Leonard, Boston. This large volume contains a great deal of technical and difficult research in determining the etiology and various phases attending these conditions and is entirely too technical to be appreciated by the average practitioner

"**A Practical Treatise on the Treatment of Sexual Impotence and Other Sexual Disorders in Men and Women,**"—By William J. Robinson and published by the Critic and Guide Company. A great many practical suggestions are found in this volume and it is presented in an interesting and plausible manner. Any one interested in this special line would do well to consult this work.

Pharmacology, Clinical and Experimental.—Halsey's translation of Meyer and Gottlieb's pharmacology. Price \$6.00. By J. B. Lippincott Company, Philadelphia. This volume of 590 pages by these recognized specialists is probably as complete and accurate a text as can be found. In eighteen chapters are considered pharmacology of the motor nerve-endings, central nerve system, sensory nerve-endings, vegetative nervous system, eye, digestion, reproductive organs, metabolism, heat regulation, inflammation, the various organs of the body and factors, influencing pharmacological reactions. 64 illustrations supplement the text.

Electricity in Diseases of the Eye, Ear, Nose and Throat—By W. Franklin Coleman, Chicago, and published by the Courier-Herald Press. So many of our profession using electricity in their practice that this book will be of interest by reason of its practicability and intrinsic worth. Too much time is not given to fanciful details and fine spun theories but most of the attention is directed to telling how the work is done and why. The book is profusely illustrated and makes much of the text clearer. Price, \$4.00.

Stammering and Cognate Defects of Speech.—Second Volume. Price \$5.00. By C. S. Blumel and published by G. E. Stechert & Company, New York. Insufficient attention has been given to the sufferers from these physical incapacities. It is a revelation to one who has not given it much study to find how much real information of benefit to the patient is secured by a perusal of these two columns.

Case Histories in Pediatrics.—Second Edition by Dr. John Lovel Morse. Price \$3.00 Published by the W. M. Leonard Company, Boston. This book is in its second edition; is very much improved and is brought up to date in extended review of this first edition in March 1st, 1911, Journal. Again we commend it to the medical profession.

The Clinics of John B. Murphy, M. D.—At Mercy Hospital, Chicago. Volume III, Number 1 Octavo of 190 pages 91 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Published Bi-Monthly. Price per year: Paper, \$8.00. Cloth, \$12.00.

In the absence of a personal visit to the Murphy clinic, a copy of one of these volumes is the next best thing. Presented in Dr. Murphy's clear, convincing style of teaching and with abundant illustrations, it gives the reader the impression that he is present in the Hospital. It is worth while and recommended to the readers of this Journal.

History of Medicine—With Medical Chronology, Bibliographic Data, and Test Questions, by Fielding H. Garrison, A. B., M. D. Principal Assistant Librarian, Surgeon General's Office, Washington, D. C., Editor of the "Index Medicus," Octavo of 763 pages, many portraits. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$6.00; Half Morocco, \$7.50, net.

This work supplies the practitioner with abundant historical material relative to his profession and to its development and progress. It furnishes the basis of more extended study of the history of medicine. For the medical essayist, it is invaluable. The reputation of the Author is a sufficient guarantee that the subject matter and facts are dependable and they are arranged in such a way as to give one a clear conception of the history of medicine. The large number of references in the footnotes provides the student and medical speaker or writer with an encyclopedia of information that is within reach by reason of their logical and careful arrangement. It should be in the library of Kentucky physicians.

The Diagnosis and Treatment of Digestive Diseases.—By Geo. M. Niles, M. D., Professor of Gastro-Enterology and Clinical Medicine at Atlanta Medical College. Published by P. Blakiston Sons & Company, 1012 Walnut Street, Phila-

delphia. Price, \$5.00. This book of 570 pages deals with diagnostic methods, examination of feces, the digestive organs and the discussion of the differential diagnosis for the medical and surgical cases, stomach tube, gastric lavage, various methods of local treatment of the stomach and intestines. Diet and drug therapy, psycho-therapy and hydro-therapy are given under separate chapters. In part second, there are considered special diagnosis and treatment of diseases, including the neuroses, the gastrites, motor insufficiency, hematemesis, tumors of the stomach, ulcerations, diarrhoea, dysentery, constipation and intestinal parasites. The arrangement is splendid, text clear and method of treatment are rational and altogether is quite an addition to the library of the general practitioner, particularly interested in the diseases of the alimentary tract.

Treatment of Chronic Leg Ulcers, a Practical Guide to Its Symptomatology, Diagnosis and Treatment.—By Dr. Edward Adams. 122 Pages. Cloth \$1.00. Published by The International Journal of Surgery Company, 100 Williams Street, New York City.

This little book of 110 pages is replete with suggestions and measures for the relief and treatment of these particular lesions which are so difficult to handle.

Chestnut Toxemia?—T. C. Merrill, Washington, D. C., (*Journal A. M. A.*, January 24), calls attention to certain toxic symptoms that have been observed in persons after eating chestnuts from trees affected from the so-called chestnut blight due to a fungus which has been destructive in some of the New England States. Chestnuts from healthy trees are not considered toxic, but it should be remembered that during germination they are remarkable for enzymic activity and it is possible that liberation of toxic substances may then occur. The fungus of chestnut blight (*Endothia parasitica*) affects the nutrition by destroying the bark and while infection of the nut has been observed, such chestnuts are not likely to be eaten. Influences affecting the eatable portion may be due to perverted sap in the diseased trees. He gives a table of the symptoms observed in twenty-one cases which cannot be easily reproduced here but which is instructive. No positive claim is made that the symptoms are due to the eating of chestnuts. The post hoc, though present, is not here intended necessarily to mean propter hoc. It may take several chestnut seasons to determine this question. Food-poisoning, aside from the chestnuts, is excluded in the series. The cases seem to be accompanied with gastro-enteric symptoms and great prostration and slow recovery seemed to be almost the rule. The term "great prostration" is used as indicating an effect disproportionate to any known cause.

ELIGIBILITY OF NON-PROPRIETARY MIXTURES.

Physicians and publishers of journals who wish to adhere to the recommendations of the Council on Pharmacy and Chemistry of the American Medical Association, are herewith reminded that non-proprietary mixtures are deemed by the Council as eligible for prescribing and advertising, without the necessity of being admitted to New and Nonofficial Remedies.

Strictly non-proprietary mixtures of official substances, etc., (for instance, morphin and atrophin tablets) are generally sold without any special claims which would make them subject to investigation by the Council; while the number of these combinations listed by the various manufacturers is so great that that even their mere enumeration in New and Nonofficial Remedies would be practically impossible. The intelligent physician is the best judge of the advisability of prescribing ready-made non-proprietary mixtures of this type. The danger is that he may not always be able to discriminate clearly, on the one hand, between these non-proprietary mixtures that are not listed in New and Nonofficial Remedies because their admission would be superfluous, and on the other hand, the proprietary mixtures which do not appear in New and Nonofficial Remedies because they have been refused admission. The appended definition of "proprietary mixtures" shows where the line is drawn by the Council.

PROPRIETARY MIXTURES.—A mixture will be considered as proprietary, and therefore requiring consideration by the Council and admission to the book or appendix, if it contains any proprietary article, if it is marketed under a name which is in any way protected or if its manufacturer claims for it any unusual therapeutic qualities.

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In all doubtful cases, the secretary of the Council will gladly supply specific information.

W. A. PUCKNER,
Secretary of the Council on Pharmacy and Chemistry, 535 North Dearborn Street, Chicago.

Brass-Poisoning.—A case of brass-poisoning in a worker in brass but not a brass founder is reported by C. A. Pfender, Washington, D. C., (*Journal A. M. A.*, January 24). The frequent attacks were first interpreted as malaria, but blood examination failed to reveal the parasite. Quite by accident, the patient observed that his attacks would occur only after he had been brazing, never after forging or welding with the acetylene-oxygen torch. He would feel apparently well until he reached fresh air, when, as he expressed it, he was suddenly "knocked out," sometimes hardly able to get home. He would experience a general lassitude akin to exhaustion, pain in chest and rawness of lungs, and a taste as of blood in the mouth and accompanied by a sharp rigor and general contraction of the muscles of the chest, arms and legs. Dyspnea was pronounced at times. When the attacks were severe—which was always the case when he had been exposed to the fumes for several hours—he would be literally stricken dumb, unable to move or call for help. He describes the sensation as being "similar to lockjaw." The worst attack he had lasted four hours. His distress was so great that I resorted to morphin, 1-4 grain, and atrophin, 1-100 grain which afforded relief. Sweat did not always follow the chills, nor was fever always present and at no time did it exceed 101 F. The pulse was rapid and fairly strong, but he would tremble for hours after the paroxysm had subsided. As soon as Pfender found that the brass fumes were the cause of the trouble he cautioned the patient accordingly. Installation of better ventilation in the workshop was recommended and the patient was advised to intermit his work between jobs with some other employment. He was given iron and arsenic for a considerable time and was greatly improved. An annoying nervousness and tremor of the hands and arms which occasionally troubled him afterward was relieved by from fifteen to thirty minutes autocondensation treatment with about 600 to 800 miliamperes of the D'Arsonval current. It struck Pfender that the repeated attacks which the patient suffered might affect the lungs and a careful physical examination of the chest showed a number of minor changes which might predispose to tuberculosis. In conclusion he advises more care than is usually given in inquiring about a patient's occupation especially if the disease is refractory to treatment.

Paralysis General.—Treatment. Hexamethylenamine, gr. x (0.6 Gm) thrice daily, found effectual in preventing retention of urine and avoiding necessity for catheterization.—Baird.

Pancreatitis, Subacute.—Treatment. 1. Rest 2. Limitation of diet. 3. After acute attack of pain has passed off, cholecystostomy.—Archibald and Mullally.

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ORIGINAL ARTICLES

MANUAL REMOVAL OF PLACENTA AND MEMBRANES.

By WALKER B. GOSSETT, Louisville.

In a normal delivery of placenta and membranes, we find that the uterus remains retracted and quiescent. In a short time, five to fifteen minutes, active contractions begin and then at regular intervals. The separation of the placenta occurs especially during the contractions, also the period of quiescence. We know that different views are held regarding how the separation occurs, to retraction of the placental site, to relaxation of the uterine walls after contraction, and to Schultz's view of the formation of a retro-placental haematoma. We know it takes time for the separation to take place and contraction of the uterus to expel it. We cannot put a time limit upon the third stage, any more than we can to the first and second stages. I condemn the practice of the forcing of the placenta out immediately after the end of the second stage. Also, do not begin the immediate kneading of the uterus after end of second stage, unless for some cause. It is good practice to place the hand over the uterus to see that it does not become overdistended. The uterus should have a period of rest before it begins to contract to expel the placenta. Kneading too quickly may set up a tetanic contraction of the uterus, especially the lower part of the body, also destroy the quiet formation of the retro-placental haematoma. I follow the custom of keeping the hand resting quietly upon the uterus, or even

have the nurse or patient, for at least fifteen minutes, then begin the kneading of the uterus every three to five minutes. When the placenta has passed from the body into the lower segment of the uterus, diagnosed by the altered shape of the uterus, fundus rising higher and uterus less globular, then make pressure for the expulsion. If the placenta is not expelled in thirty minutes, then use the Crede's method, we all know what that method is.

When the placenta appears at the vulva orifice and does not readily drop into the hand, then carefully remove by direct traction or twisting.

After having tried Crede's method and find I have an adherent placenta, I then introduce my hand into the uterus and manually remove placenta and membranes. Be absolutely surgically clean. Always re-wash your hands or dip your rubber-gloved hands into a lysol solution before the introduction of the hand into the uterus, also have the vulva thoroughly cleansed. It is customary to have your patient anaesthetized but I have performed this operation without this being done. The fingers should be passed up between the uterine wall and the placenta, and the placenta stripped off, then make your wide sweep to get all portions, then grasp the placenta and membranes in your hand and the uterus made to force the hand and placenta out together. Keep the external hand upon the uterus to steady it and work along with the internal hand. Some operators advise an intro-uterine douche of boiled water, hot, to stimulate contraction and wash out any debris, but this is not absolutely necessary. If in hospital practice, it is very good,

but at private homes I do not make a practice of doing this. Ergotole given, hypodramatically, in all cases.

After a normal placenta has been expelled by nature, examine it to see if the membranes and the whole of the placenta have come away. Now if you find that the bulk of the membranes has been retained, then introduce the hand and remove same. If only a small portion is retained, it is a wise course to leave this alone and trust to nature to expel it, but no portion of the placenta should be left behind and left to nature to safely expel it. It should be removed.

DISCUSSION:

Edward Speidel: I think we are sometimes a little too hasty in the removal of the placenta. All of the modern text-books, as well as Crede himself, state that his method should not be resorted to within a period of half an hour after labor. Repeated attempts to secure the expulsion of the placenta within a shorter length of time are very injurious, especially squeezing the uterus before it has become firm and hard. The proper time for the expression of the placenta, when it is not expelled by nature is, of course, after it has become detached from the upper segment of the uterus and is in the lower segment. This can be determined in either of the two ways mentioned by the essayist. First, by elongation of the uterus, which can be noticed if the hand is kept lying upon the fundus. Another and more positive means of recognizing this condition, is to place a pair of arteryforceps on the portion of the cord protruding from the vulva after the cord has been cut. If, within fifteen or twenty minutes, the forceps have moved three or four inches, it is an indication that the placenta has slipped down into the lower segment of the uterus, and the time for expression has arrived.

As to manual removal of the placenta, I think the physician should wait a considerable length of time before resorting to this extremely dangerous operation. I read quite an interesting article in a recent number of the American Journal of Obstetrics and Diseases of Women on the third stage of labor, describing the custom in the Rotunda Hospital in Dublin, with respect to the removal of the placenta. No attempt is made at removal of the placenta until half an hour has elapsed after labor. If the attempt is then unsuccessful, they wait an hour, or an hour and a half, or sometimes two hours, before resorting to operative removal.

When we are compelled to undertake operative removal of the placenta, it should be carried out under rigid precautions, because it is one of the most dangerous operations for the mother in the realm of obstetrics. It should be done under rigid asepsis and, in my opinion, with gloved hands.

It has always been my custom, and I think it is a good one, to irrigate the uterus after manual removal of the placenta with a large quantity of hot water. It serves a double purpose, not only removing any infection present, but it assists in bringing about firm contraction of the uterus and prevents any bleeding from the placental site.

John K. Freeman: I hope the essayist will bring out a little more definitely, in his closing discussion, his idea as to the time we should interfere. It has been my rule never to attempt manual removal of the placenta unless there is a hemorrhage or some other special indication for it. I have often waited a long time for the placenta to be delivered, and I have never regretted the waiting. I remember hearing the late Dr. Anderson read a paper on the management of the third stage of labor, in which he stated that it was his practice to wait as long as two hours, and that he had no reason to regret it. We are often a little too hasty and, if you will pardon me gentlemen, I think some obstetricians are, strictly speaking, meddling; they are in too big a hurry to deliver the placenta and get away and they do not give Nature a fair chance. The woman has been under chloroform say half an hour or an hour, or sometimes two hours and is exhausted, and Nature, after the uterus has been emptied of its contents, must react. Therefore, as long as there is no hemorrhage, I think we should wait and give Nature a chance. I have delivered many women at full term—possibly more than a thousand—and I have never, with but one exception, resorted to manual extraction of the placenta. I am speaking of deliveries at full term understand.

The method described by the essayist is the one that should be carried out. I have only recently begun to use gloves in obstetrical work. Of course we can extract the placenta very much better, especially in premature delivery, with our bare fingers than with gloved hands, and we sometimes have to do this where we have hemorrhage and have not our rubber gloves with us.

The essayist has written upon a very practical subject and I have enjoyed it very much indeed.

Simrall Anderson: I would like to ask the essayist if he does not think there is a difference between an adherent placenta and a retained placenta.

I remember reading in an old book on obstetrics that I picked up some time ago, of the injection of cold water into the umbilical cord with the object of securing separation of the placenta from the uterus. I would like for the doctor in closing to tell us whether he knows anything about the merits of this procedure.

Harry J. Phillips: This subject is one of which the medical student is taught but little during his term at college. It occurs to me that I saw my first obstetrical case after I was en-

gaged in active practice. The average student does not have an opportunity of seeing cases of this kind in clinics.

Every one of us in the course of time, adopts a routine procedure that he carries out in his own practice. I would like to know just how many of us make traction on the cord in a case of retained placenta. I have known, and have seen old practitioners, with thirty-five or forty years of experience, make traction on the cord to liberate a retained placenta. Of course, that is contrary to our views now, and I daresay no one here would think of doing this—yet it is often done. It might not be amiss to say here that in twenty years practice, I have never had a post-partum hemorrhage or a case of sepsis. It is remarkable what amount of abuse the uterus can stand. I have never worn rubber gloves in a single obstetrical case and, like my colleague, Dr. Freeman, I have delivered a great many babies in the past twenty years. I have been careful—just as careful as can be, but I have not waited thirty, or fifty or sixty minutes for the delivery of any placenta, nor shall I ever do so. I have made it a practice to keep my hand upon the fundus of the uterus as the child is being born, allowing the child to remain on the bed for two or three minutes while the nurse gets the silver solution ready to place in the child's eyes, meanwhile keeping my hands upon the fundus of the uterus. Then, after I have tied the cord, I occasionally step to the bedside and gently knead the uterus, getting it firmly contracted and the placenta in the lower segment. Then, after having waited possibly twenty minutes, I place my forefinger in the vagina to see if I can feel the placenta and, if so, I immediately employ the Crede method and expel it. I never make direct traction upon the membranes, but invariably twist them into a rope, and in that way bring them all away. My personal experience has taught me that this is the best plan and, after all, we learn things best by personal experience. I have never had a case of post-partum hemorrhage or sepsis, nor have I ever lost a woman in child-bed from any condition.

T. K. Van Zandt: I wish to congratulate Dr. Phillips; he has made a record.

In regard to the point he made about the membranes, I believe the modern teaching is that this method should not be employed.

I am surprised to hear that Dr. Phillips has never used gloves. I note that Dr. Gessett states in his paper, that he used gloves in his case, and I am glad to see that he is coming to it.

Walker B. Gossett, (Closing): I must admit that I have not been in the habit of using rubber gloves, but I now use them frequently—especially when I wait on doctors' wives. One reason I did not use them was because I do no surgery; I am a general practitioner and obstetrician and

I do not handle pus and, under those circumstances, a man who practices strict asepsis will have no septic cases even if he does not use rubber gloves.

I agree with Dr. Phillips that twisting the membranes is a good rule, and I sometimes employ slight traction. However, each individual case is a law unto itself.

Answering Dr. Anderson's question, the difference between a retained placenta and an adherent placenta, is that the former is lying in the uterus without being attached, and a little traction will expel it. Under these circumstances the Crede method is a very good one. In septic cases where the placenta is adherent, we should give Nature more time to expel it. In such cases I wait as long as an hour, but I have never waited longer than that for the expulsion of an adherent placenta.

As Dr. Speidel has pointed out, manual expulsion of the placenta is one of the most serious operations in obstetrical practice, and it should be done only under the most rigid asepsis. For that reason I have not made it a practice to employ intra-uterine douching, because we are liable to infect the patient. Also in forceps delivery, I do not practice intra uterine douching because I am afraid of introducing septic material into the uterus along with the douche. Sterile water cannot be obtained as readily in the home as in the hospital.

In cases of retained placenta, I do not believe we should run the risk of introducing the bare hand into the uterus. While we may do obstetrical work safely without gloves, still I do not think we should go into the uterus after a retained placenta without gloves on.

The Call of the Child.—The Federal Children's Bureau is more than justifying itself according to Frances Bradley, Georgia, who gives (*Journal A. M. A.*, January 24), an account of the methods used by the bureau at the recent Conservation Exposition at Knoxville, Tenn. As a part of the Child Welfare Exhibit, a children's health conference was installed to determine the prospect of raising future healthy citizens. All parents were invited to bring their children but no scoring was done or prizes given, the natural incentive of parenthood and desire for the welfare of the child only being relied on, and the results justified the method. Husbands were as interested as wives and the parents were shown how they succeeded or failed to do their best for their offspring. The examinations were opened to all classes and conditions and to all ages under fifteen. Bradley gives a number of instances showing how valuable counsel could be given even when it seemed hardly needed as well as when the need was obvious.

SURGICAL JUDGMENT IN OPERATIONS FOR ACUTE MASTOIDITIS.

By GAYLORD C. HALL, Louisville.

Most surgical procedures are not manually difficult. Some, however, require a nicety of touch or delicacy of manipulation that places them in a class above the usual operation.

This is particularly true in those regions of the body where surgical procedures must be carried out within a small space which is surrounded by important structures: where the inadvertent slip of an instrument or an ill-chosen step in technique might result in serious injury to our patient. On such a plane we must place the mastoid operation. So much has been written along this line in the past twenty years it is unnecessary to mention the particular dangers that beset this procedure as they are doubtless well known to you all.

Unless one is sufficiently conversant with this technique to follow a diseased condition to the end, yet at the same time avoid these dangers, he is but illy prepared to pursue his special work.

Important, however, as this technique is to acquire, or however facile one may become in its accomplishment there are certain other qualities one must possess before one can hope to fulfill the highest ideals of surgery as well as be a safe and conscientious adviser. This particular quality is surgical judgment, by which I mean the sense that will enable one skilled in the knowledge of the condition to digest the symptom complex presented in any given case and arrive at a conclusion as to the necessity or not of operative interference. In short, it is a mingling of sound common sense with the special knowledge required in the work at hand.

With these preliminary remarks I wish to consider the subject this evening under two main divisions. First, the considerations that lead us to operate in acute cases. Secondly, some points in the method of operating.

Considering the first phase of our subject the first question to be answered is what constitutes mastoiditis. This brings us to a review of the chief symptoms. There is usually, though not invariably, a history of middle ear disease. The appearance of the ear drum varies greatly. It may be red, bulging, and unopen. Usually rupture has occurred or the ear has been opened. Looking through the rupture pulsation is usually present. The lips of the wound may be pouting or protruding which usually indicates too small an opening with deficient drainage. The position of the opening of the drum is of importance. If above or anterior it is much less favorable

than below and behind and much more apt to have caused trouble.

Finally there may be a hole of considerable size in the drum without swelling and apparently well able to take care of any discharge; as in those cases in which the discharge varies within wide limits. There may be no discharge or at best but slight moisture with white flakes in it as in the case just cited. In the very early stages the discharge may be profuse and sanguinous or if later purulent and thick. It may be so profuse as to constitute practically a continual flow into the canal interfering greatly with the inspection of the deeper structures.

In my opinion the extremes are more significant than the moderate discharge. The color and physical characteristics are of little importance.

Of greatest importance is the bacterial contents of this discharge, all being agreed that the streptococcus mucosus is the most dangerous organism, prone to marked destruction of tissue with but few symptoms. Next in importance the streptococcus pyogenes; following this the pneumococcus and staphylococcus. There are, however, rarer bacterial infections in this region that are far more destructive than the last named organism. We have occasionally a Krebs-Loeffler bacillus, Friedlander's pneumo bacillus, bacillus influenza, and meningococcus, bacillus pyocyaneus. There may be a mixed infection or a pure culture present.

One should obtain the secretion for examination direct from the middle ear if possible and not that which has lain an indefinite time in the external canal.

Another symptom of considerable value is the sagging downward of the posterior superior canal wall due to an edema or a superficial periostitis anterior to the mastoid antrum.

Pain may be absent or severe. It is apt to be worse in severe infections with an abnormal discharge and an inadequate opening of the ear drum.

The location of the pain is of importance. Tip pain is not particularly significant as it occurs in most cases of simple otitis media in the early stages. Its location high up or involving that side of the head, or referred to a point behind is much more characteristic of a mastoid infection. Finally it may be absent altogether or exist only as an indefinite something which the patient feels but can not adequately describe. The character of the pain may vary from the acutest suffering down through all stages and varieties to nothing at all.

Tenderness over the tip, as in pain, has no special significance. Deep tenderness over

the antrum or behind at the point of exit of the mastoid emissary vein is suggestive of mastoiditis.

Such further symptoms as swelling and edema over mastoid with displacement of the auricle outward, which symptoms occur particularly in children, are but confirmatory evidence and indicate a rupture outward through the cortex with localization of the infection.

The general symptoms of the disease present as wide variations as the local ones. The patient may be profoundly septic; unconscious, with high temperature; rapid pulse and all the attendant symptoms. On the other hand pulse and temperature may be normal and the patient show no evidences whatsoever of his infection.

The usual course is about as follows: An infection of the middle ear followed by rupture or opening of the drum has a temporary amelioration of symptoms with sudden recurrence. This may be ushered in by a chill; the patient feeling sick; all of the ear symptoms are accentuated though sometimes there may be a sudden cessation of the discharge with the advent of mastoid symptoms.

After reviewing these symptoms in detail one may pertinently ask at this point what symptoms point unmistakably to a mastoiditis.

I think no categorical answer can be given to this question. Any combination of three or four of the above mentioned symptoms if continued for twenty-four or thirty-six hours should convince one of such a condition, but this does not by any means dispose of the subject for there are undoubtedly cases of mastoiditis that occur with practically all of the classical symptoms absent.

I believe we have all seen such cases with no particular pain or tenderness; without drooping of the canal wall; without characteristic discharge, or redness, or swelling behind the ear, or any general symptom that would indicate a severe infection and found on operating a process greatly diseased with abundant pus to testify the necessity for operation.

In this connection I wish to report the following cases:

Case I.—W. S., age 33 years. Coal miner by occupation. One month before operation had suffered an acute abscess in the middle ear which had ruptured, with abundant discharge for several days after which all symptoms became better. Throughout the month in which he had had the trouble, however, there had been three different recurrences of the inflammatory symptoms all of which had subsided spontaneously.

On examination, pulse, temperature, and

respiration were normal. There was no tenderness at any point. The patient had an indefinite feeling of discomfort in the direction of the occiput and involving the muscles on that side of the neck. The drum was widely opened and contained but a moderate amount of discharge. No additional discharge could be obtained by suction. Infection showed streptococcus.

Operation was decided on from the character of the discharge, the indefinite pains in the head and the history.

Operation disclosed a tremendously developed mastoid process, foul pus in antrum under pressure; excavation backward revealing a large mass of granulations over the site of the sinus. This was so extensive and extended so far back that we at first thought we were dealing with a thrombosis of the sinus and removed the granulations with that thought in mind. The mass was finally dislodged, thicker around than the finger and fully an inch and a quarter long, under which could be seen the bluish sinus uncovered for that length practically from the knee down to the jugular bulb.

A very wide and thorough dissection was made in all directions finally excavating the largest cavity which I have ever seen in the skull. The wound was partly closed and the cavity lightly packed with iodoform gauze, rubber tissue being placed over the exposed sinus.

Recovery was prompt and uneventful except that for a few days following the operation there was daily excursions of temperature from 97 1-2 to 99 1-2, which, however, subsided without further interference and the patient went on through an uninterrupted recovery.

Case II.—H. S., age 24 years. Following tonsillitis and rhinitis developed an indolent infection of middle ear. This was promptly opened with the subsidence of all symptoms. After about three weeks, however, patient began to complain of pain, indefinite in character, coming on at odd times affecting that side of the head. There was no acceleration of pulse or temperature at any time. The patient was up and around. One feature, however, which developed somewhat later in the treatment was fainting every time the ear was dressed. The discharge was not abundant and was a mixed infection, pneumococcus predominating with staphylococcus.

A course of vaccine had been given without influencing the condition. Operation revealed abundant pus in the antrum under considerable pressure. This entirely relieved the condition and patient had an uninterrupted recovery.

In such cases the decision to operate is

fraught with many difficulties and no absolute rules can be laid down, as a decision often rests on the observance of a single symptom that is out of all proportion in severity and extent to the apparent disease process.

In such cases must we humbly bow to the years of experience of some of our older colleagues since long observation of the vagaries of a disease in a given locality certainly gives one a superior understanding of a doubtful condition.

I recently had the pleasure of assisting a gentleman, whose attainments we all admire and respect, in an operation for acute mastoiditis. The patient was an elderly lady past sixty and the only prominent symptom in this patient's case was dizziness.

Operation revealed pus under great pressure affecting chiefly the lower portion of the process with erosion of the bony covering of the lateral sinus.

I am informed that the operation was completely successful in relieving all symptoms and the patient made an excellent recovery.

Finally in some cases the answer must be left to the verdict of an exploratory operation as in certain abdominal conditions and as in such cases this exploration is as free from danger either to life or function.

The sooner that otology learns the lesson that surgery has been taught about appendicitis the better off it will be.

Waiving discussion regarding the three essential points in any infection, namely, virulence of infecting organism; size of dose; resistance of patient; we find broadly speaking there are two classes of cases.

One where the process burns itself out and remains strictly localized, the resistance of the patient being well marked. All of these patients should recover with operation. The other where there is no delimitation of the process, resisting power on the patient's part being feeble, the whole organism suffering from the onslaught of the infection. Such cases usually die.

There are two other possible outcomes that are subordinate to these two. In the non-resisting cases by very prompt resort to surgical means in ridding the patient of the great mass of infection we may be able to turn the tide in our favor, the operation having the effect of so diminishing the dose of the infection that even the feeble resisting powers at our command can cope with it. As in appendicitis so in mastoiditis it is possible to operate at a time when the line of defense is but partially developed the insult of the operation causing it to give way altogether and converting what would have been a localized process with safe operation later to a rapid-

ly spreading diffuse process the patients usually succumbing to meningitis.

Therefore, from the ineptness of any middle ear inflammation the strictest watch should be kept for the advent of signs of mastoid involvement. Such signs appearing the case should be submitted to operation at the earliest possible moment.

If seen late and the case is showing doubtful resistance reasonable delay in an endeavor to strengthen such resistance is justifiable.

I grant that the analogy is not so complete as in appendicitis for the reason that it has not been so thoroughly worked out. I believe, however, this postulate holds good. Either operate very early or in cases seen late in the development of the disease attempt by conservative means to stimulate resistance until you can convert the patient into a reasonably safe surgical risk.

Concerning the operative procedure I do not intend to describe its technique, all men are agreed that the proper thing to do is to uncover the mastoid antrum and work in all directions from this point; to remove all diseased tissue. Difference in the manner of arriving at this end is of no importance.

Difference of opinion as to what constitutes "all diseased tissue" is of importance since stopping short of this tends to delay convalescence or may be the starting point of further disease or necessitate another operation.

I therefore desire to call attention to two points that I think of importance in technique and which I believe renders recovery more certain and convalescence more rapid.

The first of these is the wide opening of the drum membrane. The reason for this is manifest. Presumably at least the mastoiditis itself arose because one was unable to maintain sufficient drainage from the middle ear through the drum. I usually make this incision at the beginning of an operation and pack the canal with cotton. It is a little point but one I think that is often neglected.

The second point in technique to which I desire to call attention is the excavation forward from the antrum of the zygomatic cells and in the direction of the aditus ad antrum. In fact these should be cleaned out until by means of a bent canula (Heath's) one can syringe from the antrum through the aditus into the middle ear. After excavating these cells I place the tip of the canula deep into the cavity with its mouth toward the middle ear. Hot saline is then washed through until a mass of pus and detritus precede this.

The importance of this is manifest if one but considers the anatomy of the parts. The determination of a mastoid infection is not the mere presence of pus behind the middle

car but the presence of pus that can not drain out through the natural channel which is the *aditus ad antrum*; therefore, in every case of mastoiditis there is a time when by reason of pus or swelling of the membrane the *aditus* is blocked and drainage between the antrum and middle ear is cut off. Hence the necessity of clearing out this passage which is but following the disease to its source and removing it.

Trivial as these two points may seem I believe they are the answer to a short convalescence and the man who neglects them and stops his operation after opening the antrum and tip sentences his patient to a long convalescence and the possibility of a second operation.

DISCUSSION.

J. M. Ray: I have enjoyed Dr. Hall's paper very much indeed. First in regard to diagnosis. I think any case of acute suppurative middle-ear disease, with a persistent discharge and pain continuing for three or four weeks is evidence of involvement of the mastoid. While a great many of these cases will get well without operation, still I think they should be operated upon, for the sake of safety if nothing else. A simple mastoid operation does not amount to so very much, while if the condition is allowed to go on for some time, it may amount to a great deal. I do not believe that mastoid disease develops in three or four days from a suppurative middle ear. Every once in a while some one calls me up and tells me to go see a patient that has the mastoid disease, and in many instances I find that the diagnosis has been based upon a little tenderness over the mastoid.

I believe in thorough operative procedure. When I go in I do not stop until I am fairly sure that all of the diseased structures have been removed. A gentleman was in my office a few days ago upon whom I had done a double mastoid operation, first on one side and then on the other, at different times. This man was over seventy years old when I operated upon him. In the operation I opened the lateral sinus and there was considerable hemorrhage, which was easily controlled and he got well. He was in my office the other day bragging on how good he was feeling. If I had cut the operation short in this old man, before having removed all of the disease, there is hardly any doubt that he would have had a sinus thrombosis which would probably have terminated fatally.

In acute mastoid cases, let the middle ear alone as much as possible. If it has good drainage, let it alone; do not probe into the middle ear because of the danger of dislocating the ossicles and producing permanent deafness. I like to see the middle ear dry within three or four days after operation, letting the drainage come from behind.

Adolph O. Pängst: I think the point of practical interest to a society of this kind, the majority of whose members are engaged in general practice, is the fact that there are symptoms other than the so-called cardinal symptoms, which indicate mastoid operation; in other words, that it is not always necessary to wait for the typical symptoms of swelling and bogginess behind the ear and sagging of the ear canal—symptoms anybody can recognize—before opening the mastoid. Dr. Hall brought out this point, but it is worth repeating. One of the symptoms he spoke of is sagging of the ear canal. The presence of this symptom is a fairly good indication that the mastoid is involved, although its absence does not indicate the reverse. I would pay considerable attention to the amount of pus. In my opinion, persistent and copious discharge of pus is one of the most important symptoms we have of involvement of the mastoid bone. I think attention was first called to this by Politzer, but he placed the limit of time at a little longer than it is now. He believed that in the presence of a profuse discharge, persisting for four or five weeks, operation should be done even in the absence of other symptoms of mastoid involvement. However, according to Dench and others, operation should be resorted to earlier than four or five weeks. I have operated in cases where the only symptom was profuse discharge and elevation of temperature in the absence of pain, bogginess, or any other of the so-called cardinal symptoms.

I do not believe an elevation of temperature is in any degree indicative of mastoid involvement, because we may have this in ordinary middle ear disease.

Dr. Hall spoke of making microscopic examination of the pus to determine the species of organism present, as an aid in telling when to operate. I have never been able to carry this out with any degree of satisfaction. I do not believe I would go into the mastoid simply because of the presence of a streptococci infection in the middle ear, unless there were other clinical symptoms tending to confirm the diagnosis. In Dr. Hall's case, however, the discharge was sufficiently profuse to indicate operation, regardless of the microscopic findings.

C. T. Wolfe: Just a word on this subject from a prophylactic standpoint. Most of these conditions start with a simple ear-ache; or, rather, a great many simple ear-aches terminate in mastoid involvement. A great many of us, especially those who do general practice, are prone to use sweet oil and laudanum, or other similar remedies, with the idea of controlling the pain, when a simple incision of the ear-drum would relieve the trouble by releasing the pus, which, under pressure, causes the pain. It behooves every one of us to be thoroughly familiar with the anatomy of the ear-drum because, in my opinion, a

great many mastoid operations could be avoided by early incision of the drum.

C. H. Harris: I believe if I had mastoid disease, I would want my mastoid opened. I would like for Dr. Hall to answer one question in closing. The late Dr. Wm. Pusey, who operated upon two or three children for me, took the position that free incision of the ear drum, cutting down through the periosteum over the mastoid, would relieve mastoid abscess. I remember one child, a little over a year old, that he operated upon. He cut down through the periosteum, and said if that did not relieve it in a little while, he would do a radical mastoid operation. I did not have a great deal of faith in it, but much to my surprise the symptoms were relieved and the child had no further trouble.

Gaylor C. Hall, (Closing): I wish to thank the gentlemen who have discussed the paper. During the season just past, we have been seeing a great many cases of mastoid involvement without any of the usual symptoms. I believe I would be safe in saying that, of the cases I have operated upon this season, the majority have been without the classical symptoms of mastoid involvement. Whether this was a seasonal incident, or whether it was due to the type of infection prevalent, I do not know, but certainly the season just past has been very unusual in that respect.

As to Dr. Ray's remarks, regarding probing the middle ear, I want to say in defense of myself that I never put a probe into the middle ear, or attempt any surgical procedure whatever there, except for the purpose of securing a very wide opening of the ear drum, for the reason, as stated in the paper, that mastoid infection is at least partly determined by the fact that there is inadequate drainage through the opening already existing, which is proof that the opening is insufficient.

In regard to the species of organism as an indication for operation, that was one of the features of the particular case I mentioned. This man had suffered three spontaneous attacks following the initial lesion, and they had all subsided spontaneously. He had come a distance of more than two hundred miles, and he expected radical relief. While he had a very moderate discharge, it proved to be a streptococcal infection, and in view of this fact, together with the history, I felt justified in operating upon him, the result of which speaks for itself.

Dr. Harris' question is, as usual, a very difficult one to answer. He refers to the Wild incision. The only explanation I can give of the relief afforded by this operation is that in the first place, the mastoid of a child is very poorly developed, the antrum is high, and the cortex is there. It is simply one of the means by which nature enables children to resist infections. The incision in the direction of the antrum deter-

mines the outlet of pus in that direction, and nature is able to take care of it. In older children, with a better development of the mastoid, I do not believe such an incision would be adequate. In fact, I would not care to practice it at all, but those cases in which it does the work are very young infants, with an absence of tip cells, the antrum high up, and cartilaginous substance between the posterior canal wall and the anterior surface of the mastoid antrum; thus the incision determines the infection forward and nature takes care of it.

CLINICAL CASES

EXCISION OF THE TARSAI CARTILAGE AND CONJUNCTIVA IN OLD TRACHOMA.

By C. T. WOLFE, Louisville.

In view of the fact that a recent investigation of the trachoma situation in our schools, by men connected with the United States Public Health Service, has shown that 2 per cent of all the children have trachoma, we are necessarily confronted with the problem of its elimination or at least means must be devised to prevent its further progress. While I had the pleasure on several occasions of being associated with these officials in the work they did in Louisville and though large numbers of cases were reported, I am still of the opinion which opinion I expressed some months ago in a paper before this society, that trachoma does not constitute a serious problem in this city. We have in Louisville all the facilities that medical science has invented, our physicians and surgeons are of the best and in goodly numbers, and though this disease, which as a rule is found to be most prevalent among the poorer classes, they need not suffer as a consequence, for our clinics are numerous and well taken care of. If a like condition to this existed e.g. in Eastern Prussia, trachoma would not there be considered, as it is now, a national problem. Further their social and economic conditions predispose to trachoma and are necessarily far below our level, and their sanitation is an unknown quantity. What we do need in Louisville is a campaign of education to bring the matter before the public.

It may be of interest to note that in dealing with trachoma we are dealing with a disease of great antiquity. Hirschberg assures us that it existed fully three thousand years ago. Though from that early age to the present it has been attacked both medicinally and surgically, no one has yet discovered a medication or devised a surgical procedure that will

act either as a pumacea or as a phophylactic agent.

The very early surgeons realized the all too frequent inefficacy of medical measures in the treatment of this most intractable disease and resorted to surgical procedures that indeed seem crude at the present day.

The Arabians are given credit for first attacking trachoma from a surgical standpoint more than a thousand years ago. Their method consisted of rubbing the trachomatous conjunctiva with a fig leaf until blood appeared.

According to Wood the modern treatment of trachoma, both medical and surgical, dates from 1812, when the French troops, returning from Egypt, imported the disease into the continent of Europe. At a period when bleeding was regarded as a *sine qua non* of correct therapeutics is not surprising that surgeons should have practiced depletion of the conjunctiva in the hope of checking the disease. It is stated that great quantities of blood, even up to several pints, were abstracted. In addition leeches were used, and blisters were applied.

Other methods were brought to light at different times and heralded over the world as apparent steps such as scarification, eurette and brossage and while all are useful, a tremendous impetus was given methods of this type by Knapp in 1891, when he introduced his ingenious roller forceps.

Though all of these methods are advantageous they nevertheless have their shortcomings in that they do not prevent recurrences and none of them will cure trachoma *per se*.

Thus it can be readily seen that the treatment of trachoma, especially in its latter stages, has ever fallen far short of our expectations. There has been but little to offer in the way of encouragement to individuals so unfortunately afflicted, for the disease at this stage responds but little to the usual medications, and if at all, is so slow that our patients through discouragement become wandering habitues of the various clinics until nature ultimately arrests the disease. But the end she gains hardly justifies the loss the patient sustains. For there results a complete obliteration of the retro-tarsal folds, a shrunken and distorted cartilage, with its attendant evil effects, a pannus that is usually dense and permanent and a dry and shrunken conjunctiva.

Therefore, from the standpoint of theory it was reasoned that since the disease will not subside until these tissues are destroyed, why not remove them before nature has had to and save the patient the time and suffering which must necessarily cover years. Thus

the operation in question was attempted consisting of an excision of the upper retro-tarsal fold of conjunctiva and the superior tarsal cartilage, obliterating entirely the trachoma bearing area in the upper lid.

In the hands of its originator, Dr. Heisrath, and his assistants, Drs. Vassius and Kuhnt, of Eastern Prussia, it has yielded 50 per cent to 60 per cent of cures and in addition has afforded practical immunity from reinfection. In view of these facts it is indeed surprising the indifference with which the American surgeons have regarded it, for it has not been adopted universally in this country.

The indications for this operation, according to Wootton, are in the severe trachoma of adults with corneal complications and in all stages except the cicatricial. Claiborne believes it is indicated in all cases of trachoma in which cicatrization has commenced and panus and keratitis are present. On the contrary he thinks it should not be performed in any case in which granulations are sufficiently abundant to justify expression unless the disease has several times repeated itself after the operation. As to its being contra-indicated in the cicatricial stage, I am inclined to take exception, since such striking results were obtained upon one of my patients who had a very pronounced cicatricial process. The results of my experience corroborate those of Claiborne and I believe as he does that if there is one class of cases in which the excision is indicated it is in the purely cicatricial or the cicatricial form combined with granulations.

While my experience covers but six cases, the results have been very gratifying, and I believe that when indicated this procedure fills a long want in the alleviation of this most troublesome malady.

DISCUSSION.

J. M. Ray: I have enjoyed Dr. Wolfe's report very much indeed. There are just two points that I want to discuss; first the trachoma problem. It seems that attention has been most vividly directed to the supposed prevalence of trachoma by the recent inspection of our city schools. I have practiced medicine here a good many years, and I constantly have several cases of trachoma under my observation; yet I have never been impressed that we have more cases of trachoma here than exist in other cities of the same size. I am sure that the relative proportion is not as large as it was when, as a young man, I was an interne in an Eye Hospital in New York. At that time I had in one eleemosynary institution, more than one hundred cases of trachoma out of a total of three hundred and fifty children.

Any one who has practiced medicine here as

long as I have, and is familiar with the State of Kentucky, knows that there are a number of places located throughout the State that might be termed trachoma areas, of communities. I remember that, while a hospital interne in New York, I made a visit to my old home in Nelson county, Kentucky, and while there a doctor friend of mine told me that he wanted me to see a family that he was treating for sore eyes. I went with him, and found a mother and three children all suffering from trachoma. I told them it was contagious, and warned them against using the same basin, towel, etc. Since then I have seen nearly all this family, and they have the disease. I do not believe that trachoma is contagious in the sense that it can be contracted through the air, but constant association, using the same wash-basin and towel, sleeping on the same pillow, etc., will sooner or later result in every member of the family contracting the disease. Since I have been practicing in Louisville, I have operated on two or three members of that family for trachoma, and I think I have treated seven or eight other members and several neighbors for the same condition. Altogether, I have seen probably a dozen cases, outside of this family, from that same community.

I think the newspaper notoriety given to the recent inspection of our schools has unduly excited a lot of people with respect to trachoma; many of them seem to think that we have a new disease to deal with and one that is highly contagious. I do not believe that one child can contract trachoma from another simply through association at school, unless they are intimate enough to use the same handkerchief, wash in the same basin, or something of that kind. I had an illustration of the effect of this inspection to-day. A mother sent her child to me with one of these little slips from the inspector, together with a note from the teacher to the effect that unless the child was treated, it would not be permitted to return to school. This child had a very mild infection in the culdesac. I hardly believe that child is dangerous from the standpoint of association at school. We need a little education along the line of diagnosis, because everything that is called trachoma is not really trachoma. I have seen cases that had been recommended for operation that were not trachoma.

In regard to the operation described by Dr. Wolfe, I am sure he does not intend to be understood as bringing it forward as a new operation. I have been doing it, off and on, for a good many years. In the late stages of trachoma, in certain cases, it is a very valuable operation. When I left the hospital as an interne, I went abroad, and in Paris I saw Galezowski do this operation. He operated on these patients under chloroform. With forceps and a pair of scissors he takes out the culdesac, and never put in a stitch, and after seeing this I became less afraid of operations on

the culdesac. I heard some one say last summer, "what is the use of fooling with this operation? Turn over the lid, cut out the culdesac, put the lid back and get along just as well as with sutures.

Adolph O. Pfingst: I had the pleasure of seeing Dr. Wolf operate on one of these cases, and of seeing one of them after operation, and I wish to compliment him on the results. One of these was a very interesting case. The man had marked pannus and a corneal ulcer. In this case there was marked improvement within ten days after the operation, although prior to the operation practically every remedy recommended for this condition had been used without results.

As to the operation itself, it is the rational procedure in advanced cases. The principle involved is that it exposes that part of the conjunctival surface where we have the most trouble and where recurrence most frequently takes place; namely, the culdesac, above the margin of the upper lid. All of us have operated on these cases by other methods and sent them home apparently well, only to have them return in six or eight months with a recurrence starting from this culdesac. This is also the place most frequently neglected by the practitioner in following up the treatment. In the operation reported by the essayist the cartilage is cut away with its conjunctival surface, and the conjunctival of the culdesac drawn to the edge of the lid, making it amenable to treatment.

As to the indications for this operation, I do not believe Dr. Wolfe intended to convey the idea that it does away with the roller forceps and other methods that we have carried out in the past. We all use roller forceps to get rid of granulations on the conjunctiva, but in advanced cases, where there is pannus, ulceration or scar tissues with its deformity, it is certainly a valuable operation.

C. T. Wolfe, (Closing): Just a word in regard to suturing. I do not believe Dr. Ray would operate on a case of this kind without putting in sutures. Without them we do not accomplish what we desire from the operation; namely, to bring the conjunctiva forward and make a new lid and thus do away with the irritation that results from granulation in the lid.

This operation was formerly done on the lower lid also, but most operators have now abandoned that. The lower lid is not the one that is responsible for the symptoms and sequelae of trachoma; it does not give rise to corneal ulcers or other irritations of that kind.

VESICAL CALCULI,

(REPORT OF CASE.)

By ELLIS SAUNDERS ALLEN, Louisville.

Vesical calculus is a concretion of the solid urinary constituents. Calculi may be generally grouped under the following headings:

1. Those formed from the normal constituents of the urine,—uric acid, the phosphatic, the mixed, and the urate calculi.

2. Calculi formed of salts found in normal urine, but never present in excess except in disease, the oxylates and carbonates.

3. Concretions formed from elements entirely foreign to normal urine,—cystin, indigo, and xanthic oxide.

The large majority of stones are formed of uric acid and the urates, the phosphatic and mixed calculi come next in order of frequency; and last come the oxalates and rarer forms,—indigo, xanthic oxide, etc.

Uric Acid Calculi are formed in acid urine. Originating in the pelvis of the kidney, they descend through the ureter to the bladder, usually causing that form of violent and paroxysmal pain which is termed renal colic. Once in the bladder their further growth is due to accretion of uric acid alone, or they may form nuclei for the deposition of other elements. Uric acid calculi are generally smooth, spheroidal moderately hard, and yellow to reddish brown in color.

High living and a gouty diathesis are factors predisposing to the formation of these concretions. They occur at the extremes of life.

Urate Calculi. The sodium, potassium, and ammonium urates, though rarely forming large stones, are constantly and copiously deposited as sediment in febrile affections, and when, from any cause, the urine becomes markedly concentrated. The urate calculi are observed almost exclusively in children. In the adult they may form the nuclei or large concretions made up of divers elements. They are grayish yellow in color.

Phosphatic Calculi follow the uric acid and urate concretions in order of frequency; there are three varieties:

1. The amorphous calcium phosphate rarely forms a calculus of itself. It is commonly deposited in layers about calculi of other salts, or is intermingled with them, sometimes reaching considerable size. It crumbles easily; its color is a dirty brown or white.

2. The triple phosphates (ammonio-magnesian phosphates) are commoner in calculus formation than calculi phosphate. Such calculi are crystalline and of a whitish color. Formed in ammoniacal urine only, they are

vesical in origin and frequently complicate cystitis.

Mixed fusible calculi, being composed of the triple phosphates and calcium phosphate, are not uniform throughout, forming about a nucleus of calcium oxalate, uric acid, foreign bodies, etc. They appear as masses which resemble white friable mortar, and are formed in ammoniacal urine.

Calcium Oxalate Calculi, like those of uric acid, are of renal origin, and occur most frequently in patients suffering from oxaluria, a diathesis associated with indigestion and neurasthenia. These are the hardest of all stones, and are usually small or of medium size, spheroidal in shape, dark brown or black in color, and have a tuberculated surface, giving rise to the name of mulberry calculus. Amorphous urates and phosphates are often deposited between the tuberculations.

Calcium Carbonate Calculi are rare. When found they have been multiple, small, weighing from thirty to forty grains, each, and hard and lamellar in structure, similar to the calcium oxalate calculi.

Cystin calculi. Cystin as a major constituent of calculus is extremely rare.

Those suffering from vesical calculus as a rule present the following symptoms; pain, frequent urination, hematuria and very frequently pyuria and bacteriuria. And when they present themselves for an examination the diagnosis of cystitis is made, and the usual treatment for this condition instituted, which consists principally of urinary antiseptics irrigation and, of late days, vaccine therapy.

The patient is generally more or less free from symptoms as long as the treatment is kept up, but as soon as there is a lapse in treatment, the old symptoms present themselves. Such was the history of the cases I am about to report.

Case I. Mr. W., age 50, white, family history negative, lives in the country, under the best hygienic surroundings. For 20 years been suffering with what was regarded as a chronic cystitis; obtains partial relief at times by rest in bed, medication and irrigation. Twenty years ago, he consulted the late Dr. Yandell of this city, who irrigated the bladder a number of times, placing him on urinary antiseptics. After each visit to Dr. Yandell he obtained temporary relief; however, at intervals the spasm and vesical tenesmus was so intense, as to require large doses of opiates to obtain relief. At no time within this interval of twenty years has he been able to go more than a couple of hours without emptying the bladder and at times for months he could not go longer than 20 minutes. About four years ago, his suffering was so intense

that he consulted Dr. Hugh Young of Baltimore. Dr. Young did his punch operation, removing a small portion of the middle lobe of the prostate. He was cystoscoped a number of times with negative findings, except an infected and contracted bladder. He remained under Dr. Young's care for five months, the treatment consisting principally of irrigation and instillation with an attempt to dilate and increase the capacity of the bladder. No relief was obtained, and the patient returned home suffering as usual. Two years ago he returned to Dr. Young and similar treatment was carried out. At this time he remained under Dr. Young's care for two months, with very little relief. In December, 1913, he consulted me. I sent him to the hospital where I could investigate his case thoroughly. A laboratory report of the urine showed blood, pus, colon bacilli, staphylococci, and numerous mole fungi. An autogenous vaccine was given and injections of a 20 per cent solution of argyrol into the bladder. The capacity of the bladder at this time was not more than an ounce; there was marked vesical tenesmus causing the patient to empty the bladder every fifteen or twenty minutes; this kept up through the night. The patient told me that he never slept longer than 20 minutes at one time, so I sat up with him one night and recorded the intervals at which he was disturbed. Only one time during the entire night did he go longer than twenty minutes and at this time he went twenty-four minutes. He told me that this had kept up for ten years. In about a week's time under the treatment mentioned above he was able to go as long as three hours without being disturbed, and with an irrigation of boric acid solution I demonstrated a capacity of six ounces. I then sent him home for a week to see if his symptoms would return. He remained away for ten days, upon his return he was suffering as usual. I then passed a sound and demonstrated a foreign body from which could be elicited a distinct click.

I suggested a cystoscopic examination which was beautifully done by Dr. Bronner, discovering a stone. At the same time Dr. Bronner called my attention to an orifice of a pathological nature and location. This man very readily consented to an operation which was performed on the 7th of January of this year, extracting the stone that I present to you. The suprapubic operation was done; the bladder was thoroughly explored and a diverticulum was found located on the left side of the bladder about an inch lateral to the trigone. This diverticulum was filled with a tenacious mucus. As there was no constriction of the neck of the diverticulum I made no interference. The bladder was closed with a double row of No. 2 catgut sutures

a small wick drain being inserted into the space of retizius, and a retention catheter was placed in the bladder. This patient had no symptoms nor leakage from above until on the eighth day while having his bed changed the catheter was accidentally jerked out and as I was out of town, the patient began to leak through the incision as the orderly was unable to reinsert another catheter. The suprapubic wound was about a month in closing and the patient had considerable tenesmus and an enormous accumulation of mucus in the bladder which was so tenacious as to completely occlude a large sized catheter. This patient left the hospital at the end of about six weeks not entirely relieved from the tenesmus, having had several attacks of rather severe muscular spasm of the neck of the bladder but informs me to-day that he is very much better.

Case II. Mrs. B., age 55; married; family history negative, who for five years has presented symptoms of a chronic cystitis with acute exacerbations presenting the urinary findings of an abundance of pus, blood, mucus, and colon bacilli. She has been treated during the last five years by a half a dozen different men for cystitis. One man of ability stated that she had a tumor of the bladder, which was probably malignant. She came under my care in November, 1913, she was given the same treatment as the other case, i. e. urotropin autogenous vaccine and argyrol injections which for a time gave practically complete relief, the urine showing only a few pus cells, an occasional blood cell, and very few bacteria. However, when treatment was discontinued for a couple of weeks all of the trouble returned as severe as before. I then suggested a cystoscopic examination, which was admirably done by Dr. Brennan, demonstrating a large stone. This patient too, had suffered so very much and been so inconvenienced that she readily consented to an operation. The bladder was opened January 7th by the suprapubic method, and the larger of these two stones removed. The retention catheter was introduced. This patient went home on the 10th day, suprapubic wound entirely closed and all symptoms cleared up.

As vesical calculi are so very common and as their removal is rather a simple procedure, I would have little excuse for reporting these cases other than to suggest that there would probably be a good idea to have an early cystoscopic examination made in order to determine whether or not we are dealing with an uncomplicated case of cystitis, for as long as there is a foreign body which continues to irritate the mucosa of the bladder there will be recurrence of vesical symptoms with all of its annoyances.

DISCUSSION.

Herbert Bronner: Owing to Dr. Allen's splendid preliminary treatment in this case, the bladder was very tolerant to the cystoscope and it was comparatively easy to obtain a very clear view of this oblong-shaped argyrol-stained stone, as well as the orifice of the diverticulum on the left side of the bladder. I was unable to be present at the operation, but I understand the doctor did not find it necessary to do anything for this diverticulum other than thorough dilatation of the orifice.

The after-symptoms in this case have been explained by Dr. Allen. I believe the patient developed an attack of acute cystitis, probably largely brought on by trauma. It is barely possible, however, that some infectious material may have accumulated in this diverticulum and caused another attack. From the appearance and shape of this stone, I believe it had its origin in the diverticulum.

The second case is also of interest. Stones within the urinary bladder of the female are comparatively rare; men of large experience have operated upon only a few cases. The reasons for this rarity are plain. Primary stones pass out very easily on account of the shortness and dilatibility of the female urethra. Secondary, or phosphatic stones are seldom found because the exciting causes such as occur in the male-stricture, enlarged prostate and other obstructions—do not occur in the female.

A. C. L. Perceful: It appears to me, from the shape of this stone, that it might have been encysted in the diverticulum, and the diverticulum closed up, which would account for the other men not being able to find it.

I would like to ask Dr. Allen if he has ever seen a record of a case of stone in the bladder without a history of pain at any time. I have a case under observation at the present time, with symptoms similar to Dr. Allen's case with the exception of the pain.

E. O. Grant: Just one point about dealing with the diverticulum. The main difficulty is in getting a sufficient hold: it is difficult to hold it with either forceps or a hook. In the past few months, Dr. _____ of Cleveland, has brought out a new operation for these cases. His procedure is to entirely pack the diverticulum with a strip of thin gauze, such as we use for mopping out the bladder, making a semi-solid tumor out of it and cutting the diverticulum around that. It makes an easier operation than by holding with forceps or a hook, and it would probably be well to give it a trial in these cases.

Geo. H. Day: I would like to ask Dr. Allen if this patient had ever been X-rayed by Dr. Young? It does not seem to me that he has followed his usual technique in this case. However, it serves to emphasize the fact that such cases should be X-rayed. While it is a fact that vesical

stones will often escape the X-ray, still it should be done as a matter of routine.

W. C. Dugan: I wish to emphasize the point brought out by Dr. Day in regard to the employment of X-rays in these cases, bearing in mind, however, that not finding it does not mean that the stone does not exist. We should be very careful in our criticism of men who overlook stones with a searcher. No one who knew the late Dr. Yandell will question that he was a past master with the sound, and yet he occasionally overlooked them, as was done in this case.

As to the diverticulum, I agree with Dr. Grant that the best plan is to take it out and get rid of it, and the method he mentioned is a good one.

E. S. Allen, (Closing): It seems to me that this stone must have been in the diverticulum or it would not have been overlooked. It was also overlooked by Dr. Wheeler of Lexington, but upon the introduction of the cystoscope by Dr. Bronner, the stone was very easily seen. Both of these men are good men, and they have had far wider experience than I have, and it is not my intention to criticize them. The point I particularly wanted to bring out is that we frequently treat these old chronic cases of cystitis over long periods of time with antiseptics, irrigations, vaccines and so on. I believe that in such cases after a certain length of time, when the symptoms have cleared up, we should make a thorough investigation, either with the cystoscope or the X-ray, or both.

In regard to Dr. Perceful's question, I think we very frequently have stone existing in the bladder without giving rise to much symptomatology, depending a great deal upon the formation or shape of the stone. I think I have such a case on hand now. This patient three years ago, had an attack of renal colic, and has never passed a stone or had any symptoms since then. In looking up the literature this afternoon, I found a number of cases in which the first symptom was a haematuria. Very frequently this is the only symptom until infection develops, which increases the hypersensitiveness in the bladder. When this man came to me he had retention of urine. This stone had gotten into the mouth of the urethra and caused complete occlusion. By means of a large syringe I forced argyrol into the bladder and very probably dislocated the stone. Upon attempting to urinate he passed a small stone, and if it had not been for the passage of this small piece of stone, I would probably not have discovered the stone in the bladder. He would begin to urinate and the stone, because of its shape, would become engaged in the neck of the bladder and occlude the passage.

W. C. Dugan: Suppose you had found nothing with the cystoscope, would you have gone ahead and opened the bladder for diagnostic purposes?

E. S. Allen: I would probably have drained it peritoneally.

FRACTURE OF THE PELVIS AND SEPARATION OF THE SACRO-ILIAC JOINT.

By W. BARNETT OWEN, Louisville.

Because of the similarity of symptoms and treatment of sacro-iliac separation strain and disease will include in this case report eight cases of sacro-iliac strain and one case of tuberculous disease of the sacro-iliac joint.

As the symptoms of these conditions are in the main identical, will briefly state them: Pain (referred to the side of the pelvis or radiates over the buttock or thigh, sometimes straight through, greatly resembling pain of appendix disease), a peculiar feeling of insecurity and weakness about the pelvis and hip joint on the affected side, the trunk is inclined toward the sound limb, as the result of which the pelvis is tilted causing an apparent lengthening of the limb on the affected side. There may be a sensitiveness to direct pressure over the sacro-iliac joint. Pain is aggravated by lateral pressure on the pelvis or by any manipulation that disturbs the articulation.

Sacro-iliac strain is frequently mistaken for sciatica, lumbago or disease of the hip or spine. Upon examination with the pelvis fixed the freedom of motion and lack of muscular spasm would usually rule out hip or spine involvement. However, with the primary involvement of the acetabulum, the findings upon examination are very similar and it frequently requires very close study to differentiate the two conditions. The symptoms of local sensitiveness to point pressure and to manipulation usually exclude sciatica or lumbago.

Case I.—Tuberculous disease of the sacro-iliac joint, was a young lady, twenty-two years of age, unmarried, family and personal history negative, present condition of three month's duration, was admitted to the Hospital for Ruptured and Crippled, New York City, Dec. 1904. The above diagnosis was verified by X-ray pictures. Treatment consisted of the application of plaster spica, with the limbs abducted to about thirty-five degrees. The dressing was changed every two months for one and a half years. The Thomas hip-splint was applied and the patient allowed to walk. The disease did not progress after the first dressing was applied. The case was lost sight of one year later but until that time was able to walk comfortably with a slight limp. Should an abscess form (and this happens in the majority of such cases because early treatment is rarely instituted), it may burrow into the pelvis and present itself above the crest of the ilium. It may pass through the sciatic notch or appear

in the ischio-rectal fossa, and may rupture into the rectum.

The eight cases of the sacro-iliac strain are all adults, six females and two males. Classification as to occupation—two nurses, one colored laundress, one dress-maker, three house-keepers, two railroad employees, one worked in a shop and the other a conductor. Their ages were from 22 to 53. Seven of these cases gave a history of a definite over-strain or injury and the diagnosis was comparatively easy. A belt about four inches wide and of heavy material was snugly buckled around the pelvis. Seven of these cases were immediately benefited and eventually cured.

In one case, female, age 40, housekeeper, fell from step-ladder and felt something give way in her back. A belt was applied but the support was not sufficient. A plaster of Paris spica was applied for two weeks, the limbs being abducted to about 35 degrees. She was relieved of pain after the first day. The belt was again re-applied and worn continuously, there being no recurrence of pain or discomfort for the past five months. There being nothing out of the ordinary in the other cases, will not go into detail.

TREATMENT.

The ordinary sacro-iliac strain can be successfully treated by the application of a belt about four inches wide around the pelvis to be worn continuously. Advanced and obstinate cases of sacro-iliac strain, and all cases of sacro-iliac separation or disease should have a double plaster spica applied, with the limbs abducted to the normal range. The bandage should be snugly, evenly and comfortably fitted around the pelvis and molded over the crests, giving sufficient support behind. The sacro-iliac joint gets considerable support from the application of the belt, but in cases which can not be relieved by its use, would immobilize, support and protect by the application of a plaster spica, applied in the manner previously mentioned.

The case of fractured pelvis and separation of the sacro-iliac joint is as follows:

Mrs. M. B., age 39, married, admitted to City Hospital October 16, 1913. Family history negative. Personal history: had pneumonia, frequent attacks of pleurisy between ages of 16 and 30. Has had articular rheumatism following an attack of pneumonia. Had three miscarriages, all between one and three months. Made uneventful recovery from each—last one three years ago. Present History: jumped from second story window on picket fence October 16, 1913, fractured ramus of pubis on both sides, separated left sacro-iliac joint and lacerating labia. The

immediate attention consisted of catheterization of bladder, sixteen ounces of urine being obtained. Labial laceration repaired and broad adhesive straps were applied snugly about the pelvis.

Patient suffering tremendous shock was in a highly nervous state, a morphine fiend, and attempted suicide.

Morphine was continued for two weeks. X-ray pictures were taken by Dr. Louis Moir which showed the condition above mentioned. The case developed typical pneumonia, involving both lungs, and lasted about ten days. On October 31, under gas-oxygen anesthesia, lasting six minutes, both limbs forcibly abducted, and the sacro-iliac separation was reduced. Apparently no union had taken place in the left pubis. The right was in good position and was not felt to move at time of reduction.

A plaster spica, including both limbs, was applied, and another X-ray picture was taken by Dr. Moir the following day, this time, the pain was especially severe in the sacro-iliac region. After the reduction, the pain in this locality ceased, although she complained of pain in different parts of the body at times, we attributed that to the withdrawal of the morphine which she had been taking regularly for several years.

At the end of four weeks, this dressing was removed and a wide belt applied. After the patient had been walking about the hospital for about two weeks, we allowed her to go home. The records show that, in spite of many complications and drawbacks, she was fortunate enough to get a good result. Being greatly interested in this case, I instructed her to report at my office every month for an examination. She came one time and upon examination found that she had continued to improve and was able to walk comfortably with a very slight limp.

In conclusion, (1) Many cases of sacro-iliac involvement are treated for sciatica, lumbago, rheumatism, etc.

(2). Sacro-iliac strain and disease should be excluded by a thorough examination of every case of persistent or recurrent pain in the back.

(3). The best results in the shortest time are obtained by early treatment of sacro-iliac involvement as in all joint conditions.

DISCUSSION:

Guy P. Grigsby: More than anything else I wish to verify Dr. Owens' statement in regard to the X-ray plates. Unfortunately, he was unable to have them here to-night.

I was in service at the City Hospital when this woman was brought in. One thing that struck me as remarkable was the fact that, notwithstanding

the nature of the injury and the fact that she had sixteen ounces of urine in the bladder, she did not have rupture of the bladder.

The position of abduction certainly placed the fragments in the most perfect position possible. This was shown very distinctly by the plates, and I am sorry that Dr. Owens could not get them to show here to-night.

Jno. J. Moren: I am very glad indeed that Dr. Owen has brought up the subject of sacro-iliac strain. It is a very interesting one, because a great many cases that are treated for sciatica, neuritis, etc., are really due to this source. I have seen cases of supposed sciatica which had resisted practically every form of treatment recommended for this condition, and which yielded promptly under proper support of the pelvis. Recently I saw a gentleman from the country, who had been suffering for several weeks from so-called sciatica, or lumbago. He had curvature of the back, very large hips, and he could not walk a square without suffering the most excruciating pain. I procured a belt, about four inches wide, and placed it around his pelvis at the sacro-iliac joint. In less than two days he walked from the Tenth Street depot to my office without any discomfort whatever. I have heard from him since then and he is getting along very nicely.

This afternoon a gentleman was sent to my office complaining of a peculiar pain down his leg. In stepping over anything he could make it all right, but when it came to stepping down, he could not bend his back. He could not make an ordinary stride, because when he did it caused tension on the ham-string muscle, giving rise to the pain. Another good diagnostic feature is that these patients cannot lift the affected leg as easily as they can the unaffected side. I remember one patient that I had under observation suffering from typical strain and sciatica, who got in the middle of a street car track, and to save his life he could not step over the rail; he had to get down and practically roll out.

To come back to the young man who was in my office this afternoon, I put an ordinary belt around his waist and then told him to lift his foot. He did so, and one could tell from the expression on his face that he could do it better than he had before. I then told him to see if he could strike his regular stride, and he could, but when he took off the belt the former condition returned.

Geo. A. Hendon: I would like for Dr. Owens to tell us what method of treatment he pursues in cases of tuberculous disintegration of the sacro-iliac joint. This is a proposition that is quite different from traumatic strain. I have always believed that in those cases, the mechanical support should extend to the limitation of motion in an up and down direction as well as laterally, and that we should insist upon their putting a high shoe on the good foot and using

crutches. I would like for Dr. Owen to mention, in closing, the direct treatment of the lesion itself; whether he aspirates the joint and injects some antiseptic medium, or whether he depends upon the influence of rest to effect a cure, or whether he advocates opening and curetting the joint.

W. Barnett Owen: I wish to thank the gentlemen for their discussion. As to Dr. Hendon's question in regard to the treatment of tuberculous involvement of the sacro-iliac joint, I think the first thing to do is to get an X-ray picture in order to determine the extent of the infection. If the focus is sufficiently accessible and the patient's condition will permit it, a radical operation for its removal should be done. Unfortunately, most of these cases are so far advanced when we see them that it is not safe to carry out this latter procedure. In such cases I would depend more upon protective dressings. In the abduction position the joint is more nearly at rest, and a tuberculous focus is supposed to be more or less self-limited if protected and the patient is properly nourished. I believe I would treat these cases along that line.

RUPTURED OVARIAN CYST.

(REPORT OF CASE.)

By B. F. ZIMMERMAN, Louisville.

I thought that this specimen, being in a fresh state, might be of interest to the society.

I saw this patient a week ago to-night, at about nine o'clock, with a history of severe pain in the abdomen, beginning at four o'clock that afternoon, and she was still suffering when I saw her, although not so severely. Pulse 100; temperature nearly normal. She said that, following the severe pain in the abdomen, her bowels had moved, as they had done the other times during the day. She had considerable pain in the region of the rectum, and an uncomfortable feeling in the bladder upon the passage of urine. Her menstrual history gave no suggestion of pregnancy. She had menstruated about two weeks prior to this time, and it had been free, as it usually was; in fact, she had been troubled with menorrhagia for a number of years, and had frequently complained of pain in the right side since an attack of typhoid eight years ago. At times decided swelling had been noticed in the right side. She was very tender over the lower part of the abdomen, but as her condition did not seem serious I gave her something to relieve the pain and told her I would examine her the next morning. Upon examination I could make out nothing definite except uterine displacement with tenderness in the right side. The patient weighed more than 250 pounds and it was difficult to make a satisfactory examin-

ation. My diagnosis lay between an extra-uterine pregnancy and an ovarian twisted on its pedicle. I advised operation and she went to the Infirmary and was operated upon Friday morning, four days after the beginning of her trouble. During this time as long as the woman remained quiet, she had no pain.

Operation. Cutting down upon the peritoneum I found blood in the peritoneal cavity and at once concluded that I was dealing with an extra-uterine pregnancy. Then I went into the pelvis and found the right tube small, as you see it here, and somewhat distorted about this longitudinal band on the appendix. In the pelvis I found a double handful of clots and there were clots adherent to the ovary. These were removed, suspension done, a small cyst taken from either ovary and the appendix removed. The uterus was curetted. It was enlarged to the size of a two-months' pregnancy, and there was more than the usual amount of endometrium. The clots, which were very adherent, were submitted to Dr. Allen for examination and he reports that he was unable to find any embryonic tissue.

I take it that this was an ovarian cyst that had ruptured, and possibly some cases of ovarian pregnancy that have been reported were of this character.

FRACTURE OF INTERNAL CONDYLE OF FEMUR TREATED WITH WIRE NAILS.

(REPORT OF CASE.)

By C. B. SPALDING, Louisville.

During the evening of Saturday, the 7th of December, 1912, I was called by Dr. Elmore, to see Mr. T. O. H., who had been injured in a car accident. Upon a superficial examination by Dr. Elmore and myself, we were able to make out a fracture in the right knee, but due to the extreme swelling, coupled with the shock and pain present, we could not be sure of the extent of damage so applied a temporary splint, and ordered the patient to be moved to St. Joseph's Infirmary the following morning, an X-ray picture to be made by Dr. Morr, en route to the infirmary.

This X-ray picture showed a complete fracture, irregular in contour, of the internal condyle of the right femur, a few small fragments of bone being entirely separated near the proximal end of the line of fracture.

We explained the condition to the patient, advising him of the probability of a stiff, useless joint; and also, the possibility of loss of limb, from pressure, due to the extreme tension within the joint from haemorrhage.

He was advised of the possibilities; as well as the risk of opening the joint and attempting to repair the injury. Holding out to him, in case of success, the hopes of a fairly useful joint, and telling him plainly what might happen in the event of the operation being unsuccessful, he promptly accepted our opinion, and gave us freedom to use our judgment.

The operation was delayed until Monday, the 9th, to insure the cessation of all active hemorrhage.

At the time of operation, the patient's general and local conditions were as follows: Age 47, white, male, weight about 160 pounds, height about 5 feet 9 inches. Family history negative. Personal history showed that he had sustained a fractured rib, in the April preceding, which repaired rapidly.

HABITUAL BEER DRINKER.

Examination of lungs was negative, heart action, normal, pulse 68, blood pressure 170. Temperature 99 1-5 degrees, urinalysis showed a specific gravity 1038, trace of albumen, a few hyaline casts, an occasional pus cell, no blood; and sugar reaction, negative.

The local picture presented a greatly swollen knee, superficial veins engorged, and the soft structures putting on pressure well up to the middle third of the thigh.

Dr. Hein administered the anesthetic, using gas-oxygen preliminary, with a total of 215 gms. of ether. Anesthetic started at 1:10 and stopped at 2:46; operation began at 1:32 and was completed at 2:40. Blood pressure during operation varied from 170 at the start to 130 at the finish. Pulse ran from 120 at start to 132 at the finish. Respiration 28 to 30.

The operation consisted of an incision about five inches long, along the anterior border of the sartorius muscle, extending above and below the adductor tubercle. Extravasated blood was encountered immediately under the skin, and throughout. When the sight of the fracture was reached approximately a pint of black blood and synovial fluid escaped from the joint and surrounding structures. Four small fragments of bone were removed; and the line of fracture was found to be very irregular, the inner condyle being pulled well up toward the shaft of the bone and firmly held there by its muscular attachments.

Two wire nails, (a 6 and an 8 penny) were started into the fragment. The one, entering below the adductor tubercle and pointing outward and upward, the other, above the tubercle, and directed downward and outward. When these were well planted in the substance of the fragment, two fingers of my left hand pressed firmly downward on the fragment while two assistants pulled on the lower extremity. Thus exerting all the means at

hand to replace the fragment downward, which was very difficult, and at that, we were unable to place it perfectly. When it had been lowered as much as possible the nails were driven into the opposing bone. The fascia and muscles were sewed in place, and the skin closed without drainage. Catgut was used throughout. The leg was dressed in plaster, on a double inclined plane, leaving the joint free for dressing, if necessary.

Convalescence was uneventful, patient having a normal temperature in the morning and running a fever of 99 degrees to 99 4-5 degrees in the afternoon, for two weeks. Patient left hospital January 6, 1913, and was visited at his home until March 6, 1913. Cast was removed January 20, 1913, and quite a little stiffness was present. Dr. Elmore took charge and with frequent treatments, succeeded in accomplishing much for the motility of the joint.

At present the patient has about a right angle flexion and almost perfect extension, with quite an outward bowing due to the inability to fix the fragment in exactly its normal plane with its fellow.

This gentleman has a very useful leg and is maintaining his position with the school board and has been since early fall. The operation having been performed one year and nearly three months ago.

DISCUSSION.

F. T. Fort: This report should not be allowed to go without discussion. Very brilliant results have been obtained along this line. In fractures of the internal condyle of the humerus, the inner condyle of the femur and the neck of the femur, it is almost impossible to hold the bones together unless we fix them by some means, and the best method of accomplishing this seems to be the use of wire nails. One thing to remember is that, in wiring these fragments in close proximity to a joint, we must be very careful not to allow the head of the nail to enter the joint cavity. By a thorough knowledge of the anatomy, and an X-ray picture as a guide, one can in most instances introduce the nails without entering the joint cavity. If the technique has been good, one need not fear infection from leaving the nails in there. However, more care is demanded in these cases than in the ordinary run of cases, because an infection seems to be much more easily started. One should always use gloves and handle the materials as little as possible. If more of this kind of work was done, we would have fewer cases of deformity and more useful limbs.

W. C. Dugan: I would like to indorse what the preceding speaker has said. If there is any place that the use of wire nails is indicated, it is in fracture of the condyles. In the knee joint,

leaving out the use of wire nails entirely, opening up the joint and draining it will be a very potent factor in an early recovery.

I believe the doctor would have had better result and less trouble in approximation, if he had cut the tendon of the abductor muscle. I see no reason why that could not have been done and it would have averted the sliding upwards of the fragment, making approximation easier.

C. B. Spalding, (Closing): I wish to thank the gentlemen for their discussion.

To all who are engaged in the practice of medicine, there come times, more or less frequently, when we are called upon to assume very great responsibility. So far as I know, this procedure has never before been carried out in this city, and in attempting it I subjected myself to the possibility of utter failure and subsequent criticism. It was rather a hard position, and without the co-operation of the physician and the patient, the results might not have been so good.

In regard to Dr. Dugan's suggestion, as to cutting the abductor muscle, I agree with him that this would be a very good thing to do. The only possible objection would be the possibility of interference with the blood supply, and I do not believe that would be sufficient to do any great amount of harm.

Dr. Murphy originated this procedure, and he claims that even in cases where the bone is entirely black from lack of blood supply, if nailed back in position it will derive a blood supply from the adjacent bone, and regeneration will take place.

I believe it would have been better to have cut the tendon, as it was almost impossible, with all the strength we could use, to get it in position. The edge of the fracture was very jagged and widely spread, making it a very difficult thing to secure approximation, as I am sure Dr. Elmore, who saw the case, will agree.

Had this patient in the least degree resisted the suggestion we made, or if the physician, Dr. Elmore, had not cooperated with me in every possible way, this procedure could not have been carried out. On the other hand I believe that, without it, the patient would have had a stiff joint, although not necessarily a locked joint.

Dr. Fort has suggested to me the advantage of using two nails rather than one. In some cases one is sufficient, but in a case like this, where we have the condyle broken off in a position like that (illustrating on blackboard), the muscles will pull one nail out. After getting it through the shell of the bone, it is like driving it in soft structures. My idea in introducing two nails and crossing them was to get a wedge, so that the small fragment will pull against this wedge and it will not pull out.

ECLAMPSIA.

(REPORT OF CASE.)

By B. J. O'CONNOR, Louisville.

My reason for reporting this case lies chiefly in the fact that the condition was anticipated early in the pregnancy. The patient, a primipara, 21 years of age came to me in the early stages for a diagnosis of pregnancy. Her family history was excellent and personal history good with the exception of an attack of scarlet fever in her twelfth year, which was followed by a dropsy. She also suffered occasionally with rather severe headaches. Her blood pressure was 140 but she was other wise in good physical condition.

On the succeeding day her husband brought me a specimen of her urine, which showed a moderate albuminuria, with numerous hyalin and a few granular casts. The probability of serious trouble was explained to the husband in order to emphasize the necessity of frequent examinations of the urine and proper prophylactic measures. A partial explanation was made to the patient in order to impress her with the importance of a restricted diet, proper regulation of her habits, free elimination and the avoidance of mental and physical irritants.

She reported regularly at the office with a specimen of her urine during the first six months and continued in good shape. Every specimen of urine examined however revealed a persistence of the albumen and casts. Her blood pressure varied from 136 to 148. Beyond the hygienic and dietetic measures, nothing was given during this time except an occasional compound cathartic pill and salts, and several pints of Basham's mixture.

From this time onwards she showed a gradually increasing dropsy commencing in the feet and later becoming distinct in both the hands and face. Despite enforced rest, carefully restricted diet and active elimination no decided improvement could be attained in either the reduction of the albuminuria or the oedema. The quantity of urine voided and the total solids were satisfactory. The blood pressure at no time exceeded 150, ranging usually from 140 to 150. She had several moderately severe headaches during this time but they invariably promptly yielded to free elimination. No other symptom of uraemia or the anticipated eclampsia became manifest until about 12 days prior to the date on which we expected labor.

The evening before her eclamptic attack she had some gossips as company, who entertained her to a late hour with narratives of the difficulties and dangers of labor and how various acquaintances had suffered, aye, even died. She spent a restless night full of hor-

rible dreams and arose with a terrific headache. As I had directed she telephoned me immediately. I was unable to make the call immediately but I ordered the druggist to send her a half dozen powders, each containing 2 1-2 grains of calomel and 5 grains of aspirin, one to be taken every half hour until relieved. I saw her about two hours later, she had taken three powders but was still suffering. Her blood pressure was 185, pulse rate 96 and her general expression unfavorable. I gave her another powder and followed it with a bottle of magnesia. Veratrum viride was ordered in ten minim doses every 30 minutes to be continued until the pulse rate was reduced. Although anticipating an eclamptic attack I felt fairly safe with ten grains of calomel and a bottle of magnesia under the patient's belt. I left the nurse in charge and told the family I would return in about three hours.

About an hour and a half after my departure my patient became unconscious and had a hard prolonged convulsion. The nearest physician, Dr. Heman Humphrey, was called and administered chloroform. I saw her toward the end of the convulsion, she was pale, but deeply cyanotic, and mild spasms continued for about 30 minutes. This was followed by deep stupor which continued for three hours. She had a few labor pains prior to the convulsion and an examination showed a moderate dilatation of the cervix, I resorted to manual dilatation during this stupor and finally with the patient still in a semi-stuporous and semi-delirious condition. About eight ounces of urine were removed with a catheter and the patient had several watery evacuations. The pulse rate dropped to about 80 and the pressure to 160. The progress of the labor was satisfactory until the head reached the perineum. After a reasonable wait forceps were applied after the patient was anaesthetized and the labor completed without difficulty. It was somewhat difficult to establish free and easy respiration in the infant but it seemed to be perfectly healthy. Even after the completion of the labor the patient still remained somewhat somnolent and her mind was cloudy.

Hot drinks were given during the night and hot packs used on the patient. On the following morning the kidneys acted freely and the mental haziness cleared. The puerperium and convalescence was perfectly normal but the bed rest was continued until all the oedema had disappeared. Several examinations of the urine since that time showed neither albumen or casts, the patient nursed the baby and the youngster now about six months old weighs close to twenty pounds.

As stated in the beginning my reason for

reporting this case is to emphasize the advisability of routine urinary examinations in every case and the frequent use of the sphygmomanometer during every pregnancy. In this instance, as well as in others, we can obviate many difficulties and minimize many of the dangers in this trying time of a woman's existence.

DISCUSSION:

Edward Speidel: I desire to make a statement, and I would like to know whether it can be corroborated by the experience of other members of the society.

I take the blood pressure of every case of pregnancy that comes to me and, as a rule, I find very little difference in the blood pressure of the pregnant woman and that of the healthy non-pregnant woman. Another thing I have noted is that, in toxemic cases, presenting albumen in the urine, the blood pressure, until near labor, is rarely above 150, whereas in those cases of toxemia which present no kidney symptoms, the blood pressure is, as a rule, very high. I have seen it as high as 210 and 220 before labor. I would like to know the experience of other members in this respect.

The case reported by Dr. O'Connor, before the onset of labor, before the patient had the first convulsion, would have been a splendid one for venesection. I believe that had a half a pint of blood been drawn from this patient, followed by the injection, intravenously, of normal saline solution, the convulsions and coma might have been avoided.

As to the after-treatment, I think the doctor followed the right plan. The patient went into labor and almost delivered herself. If anything at all was indicated, it would have been to dilate the cervix manually and effect delivery more rapidly.

I think it should be impressed upon every one that the anesthetic of choice in these cases is ether, because it has been conclusively demonstrated that chloroform will produce changes in the liver corresponding to those produced by the toxemia of pregnancy. Consequently, of all forms of anesthesia, ether is the one of choice.

As to viratrum viride, I have used it but I am somewhat afraid of it. It is exceedingly depressing. Although it is highly recommended by many authors, I prefer venesection and the introduction of normal saline.

Another thing that might have been used with benefit in this case is a method that I use in City Hospital cases, principally on account of nerve tension—that is, small doses of morphia. In some instances I also use morphin, but in this case morphin was not indicated because of the kidney condition, but a half grain of apomorphia every four hours would probably have been of benefit.

Ben Vaughan: In this connection I wish to briefly mention a case that came under my observation.

I delivered a woman on the 22nd day of April, and on the 23rd day of May following, I was called to see her and found her in typical eclamptic convulsions. The history in this case was that the woman had borne one child previous to this one, and she had suffered eclampsia at that time. I had seen the woman only once or twice prior to delivery, and had given her advice in regard to her diet, a few cathartics, and so forth, and she had a normal labor as far as I was able to judge. After the fourth or fifth day following the delivery, I did not see her any more until the 23rd day of May, when she had some fourteen or fifteen typical eclamptic convulsions. I looked up the literature, but could find no mention of any case in which the condition had come on so late.

This case impressed upon me the fact that this condition would occur more frequently if it were not for treatment. I am inclined to believe that this woman would have had eclamptic convulsions during labor if it had not been for the treatment she received. I noticed, in looking up the literature, that the frequency of eclampsia varies from one in every two hundred cases of labor, according to some authors, to one in two thousand. I have had four cases in my own practice and I have not delivered anything like six or eight hundred woman. I have been practicing eight years and average probably twenty-five deliveries a year, which would make it about four in two hundred cases.

Milton Board: I wish to call attention to the mental symptoms in puerperal eclampsia. They are due to the condition of the kidney. I wish to take occasion to emphasize the fact that, not only in this but in other acute toxic mental conditions, we have to deal with a diseased kidney, and when this is treated the symptoms will clear up. Now, how are we going to bring that about? Irritative diuretics will probably produce a little more urine, but when you get through you have a good deal less kidney. Hence diuretics that are in any degree irritative should not be employed. The ingestion of large quantities of water will do no harm and may do much good. The point I wish to emphasize is that by attention to diaphoresis much can be done for these patients. While I do not practice obstetrics and know very little about it in latter years, I believe that, in a city of this size, with convenient and adequate hospital facilities, it is entirely feasible and practicable to place these patients in a hospital where diaphoresis can be brought about by the proper means. I mean in advance of the eclamptic state six weeks or two months preceding labor. Give them Turkish baths, or electric light baths—something that will produce good diaphoresis and relieve the strain on the kidney without employing irritating diuretics. I know that it

works wonders in other mental conditions due to a diseased kidney, and eclampsia is the same thing in the respect that it is caused by a toxemia.

Walker B. Gossett: In regard to the anesthetic to be used in labor, I favor chloroform. I do not know of a single instance of a woman dying under the use of chloroform in labor. It is claimed that ether is much easier on the liver, but there is no doubt that chloroform is much easier on the kidneys and bronchial tubes.

I saw a case in consultation last week, in which the doctor had been called suddenly to deliver the woman. He did a version and delivered her very quickly. I do not know whether she was conscious after delivery or not, but when I was called she had been unconscious for some hours and had oedema of the lungs. In this case ether was the anesthetic used and the doctor had had no chance to ascertain anything about the condition of the woman's bronchial tubes; she might have been the subject of bronchitis. Therefore, particularly where we are called upon suddenly to deliver a woman, I think chloroform is much safer than ether. I have never used ether in my obstetrical work, and I believe that chloroform is far safer.

C. H. Harris: Two or three statements have been made here to-night with which I cannot agree. We were formerly taught that ether should not be given where the kidneys are involved. Therefore, I have always stuck to chloroform in labor cases, and have never had any trouble from it.

I think Dr. Speidel hit the keynote when he said that venesection is the thing in eclampsia. On two or three occasions I have been forced to resort to venesection in these cases, and it is marvelous how we can stop an eclamptic convulsion by withdrawing a pint of blood. Just why it is I do not know—whether it is because it lowers the pressure or drains out the toxine; at any rate, it does good.

Dr. Vaughan has reported a case in which the patient developed eclampsia a month after delivery. The present-day teaching is that eclampsia is due to some toxin generated by the foetus and that pressure on the kidney has nothing to do with it, the high tension being merely a symptom of the toxemia that exists. I think it is quite unusual to see eclampsia developing a month after delivery, due primarily to puerperal toxemia. No doubt in Dr. Vaughan's case, there were chronic changes in the kidney that produced the condition.

I have never given any one *viratrum viride* or *aeonite*. They are two drugs that I am almost as much afraid of as I am hydroseyanic acid. Tincture of *aeonite* depends upon tartaric acid to hold the *aeonitin* in solution, and is never a reliable drug. It is good for a liniment, or to drop in the ear, but we can never depend upon the

ordinary drug-store preparation being held in solution. *Viratrum viride* I am afraid of because its effect is cumulative. We may get no effect whatever from either of the first few doses and then get the cumulative effect of all of them at one time, causing the blood pressure to become very low and the patient to become cyanotic.

In regard to Dr. O'Connor's treatment of this case, it seems to me that it was a little risky to give aspirin and calomel at the same time; it is rather a bad combination to put into the stomach. I am inclined to believe that the heat produced in the stomach by the aspirin, together with the high temperature in the liver—say 107 degrees F.—would have a tendency to change that calomel into acetate of mercury.

Bernard J. O'Connor, (Closing): In regard to Dr. Harris' remarks, I have given calomel and aspirin together often, and have never seen any harmful effects from it. My object was to relieve her headache as soon as possible and to secure active catharsis, and it was due to the fact that I could not reach her immediately that I took this course. When she complained of headache, I immediately suspected an eclamptic condition.

Venesection is all right, but in view of the fact that this patient had had ten grains of calomel and a bottle of magnesia, I did not believe venesection was necessary. The bowels began to move about the same time that the convulsions came on, and it is possible that, if she had received this treatment a day or two beforehand, the convulsions might have been averted. In certain cases, however, I think venesection is indicated.

The point I wish to emphasize is the necessity of observing the blood pressure in these cases. Most authorities hold that a blood pressure of more than 165 in pregnancy is a danger sign, and one that demands attention, as it practically indicates the onset of convulsions. Certainly it did in this case. This woman had a blood pressure of not more than 150 until that morning, when it went to 180.

In my opinion, chloroform does not increase the blood pressure. Furthermore, in the presence of kidney involvement, it is less irritating to the kidney, and in eclampsia due to nephritis, chloroform is a much safer anesthetic.

Veratrum viride is a drug that I have used very little. It slows the pulse and reduces the blood pressure. One of the Eastern authorities, who has used it considerably, now decries its use. I do not know whether the experience of others will bear this out, but there are many phases of this subject that are debatable.

TWO CASES OF HODGKIN'S DISEASE.

By F. C. ASKENSTEDT, Louisville.

The recent research of Bunting and Yates, which has demonstrated the power of a diphtheroid bacillus to produce Hodgkin's disease, or pseudo-leukaemia, has added new interest to the study of this disease. These men have isolated from the affected lymph glands an acid-fast, Gram staining, polymorphous bacterium, at times resembling the diphtheria bacillus, at other times assuming the morphological characters of a staphylococcus, both forms occurring in the same gland. Those glands farthest advanced pathologically have been shown to present the largest number of bacteria, the staphylococci form predominating, while in the more recently infected glands the diphtheroid type prevails. Monkeys inoculated with cultures of these organisms have developed the pathological evidences of Hodgkin's disease and have proven capable of transmitting the infection to other monkeys by direct inoculation. Thus the pathogenic power of the bacterium is established in full accord with the accepted postulates of Koch. Hodgkin's disease is therefore now recognized as an infectious disease due to a specific organism, and this knowledge insures a more intelligent treatment, both prophylactic and therapeutic, in the future management of the disease.

While not rare in occurrence, Hodgkin's disease is overlooked often enough, at least in its earliest stage, to merit a more careful consideration by general practitioners, and this has induced me to report the two cases which follow, although neither presents features of peculiar interest.

Case I. Mr. M., came to consult me in June, 1911, for backache and pains in the right side of the abdomen, which he attributed to an attack of "la grippe" during preceding March. He also complained of distension of the abdomen, with inability to pass gas either up or down, as she expressed it. At night he was restless, and a sense of weakness was present at all times. During previous years he had been enjoying unusually good health. At the time of the examination he was 59 years of age, weighed 182 lbs, and measured 5 feet 5 inches in height. A considerable swelling of the left side of the neck, due to enlarged cervical glands, was observed. There were also a few enlarged glands in left groin and in both axillae. These glands felt rather hard to touch, were not adherent to the skin or surrounding structures, and were not tender. On the left tonsil a caseous mass, about the size of a pea was noticed. After removing this mass with a cotton applicator, the tonsillar surface beneath it appeared perfectly

normal. The patient had a dry cough, but physical examination of the lungs and a von Pirquet test applied proved entirely negative. Respiration was 32, pulse 88, and a temperature would rise each day to 100 degrees. Blood pressure taken while patient was lying, was 122 m.m., systolic, and 90 m.m. diastolic; while in the standing posture it was much lower—systolic 90, diastolic 70. second dorsal, first, fourth and fifth lumbar vertebrae were tender to pressure. The bowels moved regularly, and urination was normal. The urine was free from albumin, sugar, and excess of indican. A blood count showed 4,976,000 red cells, 88 per cent hemoglobin, and 23,166 white cells, distributed as follows: small lymphocytes, 4 per cent; large lymphocytes and transitional, 3 2-3 per cent.; polymorphonucleated leucocytes 92 1-3 per cent. No abnormal cells were discovered. The spleen was not palpable at this time upon deep inspiration. Examination of the heart failed to reveal an apex beat, largely because of the adiposity of the patient; relative dullness extended 3 inches to left and 1 1-2 inches to right of midsternum. The sounds were normal, except deficient in muscular tone.

During the following month the patient lost steadily in weight and strength. Anorexia developed and a constant dull pain in the abdomen annoyed him greatly. The glands in the right side of the neck also became involved and proved slightly tender. Both groins, Scarpa's triangles, both axillae, and the left side of the neck presented large masses of enlarged lymph glands, extending in a chain under the clavicle. Sometimes he complained of tinnitus aurium. When lying his pulse rate registered 100, systolic blood pressure 104, diastolic 85; while on standing his pulse rose to 118, and his systolic blood pressure fell to 92, diastolic to 75. Vomiting set in and became so obstinate, in conjunction with complete anorexia, that nutrient enemata were resorted to. In addition there developed a marked ascites, requiring paracentesis owing to the increased embarrassment to the respiration occasioned by the distension. The tapping yielded 1 1-2 gallons of a reddish white fluid of a specific gravity of 1016, and containing numerous red cells, a few leucocytes and 1.8 per cent. albumen. After removal of the ascitic fluid a number of enlarged glands could easily be made out in the epigastric region and the spleen became easily palpable. Rapid return of the ascites necessitated twice a removal of the tapping, with removal each time of almost a gallon of fluid, which presented a milky appearance but no longer blood. A fall of 8 m.m. blood pressure was noticed after the completion of the aspiration. As the disease progressed and the cir-

culuation became impaired general anasarea ensued, complicated by a severe and exhausting diarrhoea. The urine was now scant (450 c.c. per 24 hours), highly acid, presented sediment of urates, and contained a considerable amount of diacetic acid, with an excess of ammonia. Albumen, sugar, and an excess of indican were never present. The blood pressure, which proved refractory to the influence of adrenalin administered hypodermatically, sank to 72 after the last aspiration, two days before death, which occurred about four months after the first appearance of the symptoms.

This case presents a few unusual points to be noted: (1) The caseous mass upon the tonsil, suggesting this organ as the avenue of infection; (2) the rapid involvement of distant glands; (3) the development of ascites due, as indicated by the appearance of the fluid, to pressure upon the thoracic duct by enlarged retroperitoneal or mesenteric glands; (4) the rapid course of the disease.

Case II. Mrs. S., age 63. Spare build, weight 107 pounds. Came to the office in May, 1913, complaining of loss of strength and flesh since preceding February, and, more lately insomnia and attacks of sudden prostration. In March she had first detected an enlarged gland in left groin, and later others in different regions. At the time of the examination there were several enlarged glands in the posterior and anterior cervical regions, in both axillae and in both groins. Examination of the blood revealed 4,888,000 red cells, 95 per cent hemoglobin, and 8,700 white cells. A differential count gave 3 1-2 per cent. small lymphocytes, 3 per cent. large lymphocytes and transitional cells, 82 1-2 per cent. polymorphonucleated neutrophiles, and 1 per cent eosinophiles. There was a moderate amount of fever, intermittent in character, and the pulse rate varied from 95 to 100. The urine was free from albumin and sugar, and indican was present in but normal amount.

During the month which followed the temperature ranged from 98 to 103 degrees. There were severe and shifting pains in the chest, head, back, and limbs, and hypnotics were required to produce sleep. Appetite was lost and nausea became frequent. Axillary, inguinal and cervical glands continued to enlarge, forming considerable masses. Under the right clavicle a chain of glands showed an extension into the thorax. That the mediastinal glands were also involved was apparent from a turgescence of the veins of the chest. Notwithstanding this marked and general involvement of the lymph glands the spleen failed, even after deep inspiration, to be palpable, while the patient remained un-

der observation. A mitral regurgitation accounted for a moderate degree of hypertrophy and dilatation of the heart. Systolic blood pressure was 132 m.m., diastolic 95. Respiration 22, and pulse varied from 88 to 112.

The subsequent course of the case was without interest. Diarrhoea alternated with constipation; fever, pains and gastric symptoms showed considerable fluctuations; and a general decline was noticed. In July the patient removed from the city, and died the following September.

This case ran a subacute course of about six month's duration, with the symptoms of a typical febrile form of pseudo-leukaemia, if we except the absence of palpable spleen and of hemorrhages or petachia.

The treatment of these cases was not limited to the resources of any one school, but no tangible influence upon the course of the disease can be claimed by any agent we employed. X-ray exposures were considered in the second case reported, but on account of the rapid and extensive involvement of so many different regions, the radiologist consulted did not deem such applications advisable.

To-day a ray of hope is heralding a brighter day for the future treatment of such cases. The discovery of the specific cause of the disease, the bacterium *hodgkini*, has led to the employment of autogenic vaccine, which, though failures are frequent, has afforded some encouraging results in the few cases so far reported. I refer to a paper by Drs. Billings and Rosenow, published in the issue of Dec. 13, of the *Journal of the American Medical Association*. The early surgical removal of the focus of infection has also given favorable results in some cases.

Fully realizing the shortcomings of this report, I hope nevertheless, in closing, that one lesson of practical value has been conveyed, viz: In the diagnostic consideration of all enlarged lymph glands remember the possible presence of an incipient Hodgkin's disease.

DISCUSSION.

Carl Weidner, Sr.: Dr. Askenstedt stated in his report that in this case the disease ran a course of only about six months. This was rather a rapid course. Most of those that I have seen extended over a period of two or three years.

In a number of post-mortems that I have made in these cases, I have found practically every gland in the body enlarged, resembling, as I once made the comparison, the bunches of garlic that we see hanging in the stores, varying in size from a hazelnut to a large walnut.

I have tried the arsenical treatment in a number of cases and, while it seemed to bring about

temporary improvement, the terminations of my cases have been uniformly fatal.

I notice that recent investigators have discovered what they believe to be the specific organism of Hodgkin's disease, but I am inclined to doubt that it will prove to be the true cause.

One very interesting phase of the subject that has been discussed a great deal, is whether or not Hodgkin's disease is tuberculous in character. Some authors claim to have traced a good many cases to this source, but whether or not the tuberculous trouble in such cases is a secondary infection is a question that remains to be settled. The main difference between the ordinary tuberculous process and Hodgkin's disease, is that in the latter condition the glands do not become broken-down; they remain more isolated. The blood pictures of the two conditions are also distinctly different. However, some of the recent authors have described cases where a tuberculous condition of the glands existed and which had been diagnosed as Hodgkin's disease.

Wm. A. Jenkins: Just a word regarding the etiology of Hodgkin's disease. I do not believe it can be considered an accepted clinical fact that it is due to a specific organism. However, the evidence seems to be accumulating in this direction, and the trend of modern text-books and among the best clinicians seems to be to classify Hodgkin's disease among the infectious granulomata. Most of them believe that, sooner or later, it will be conclusively demonstrated to belong to that class. The rapid course of the disease and the febrile curve are distinctly suggestive of an infectious process. Upon section of the glands removed we find two conditions that are strongly suggestive of an infectious process. One, more or less characteristic, is eosinophilia, and the other is the presence of giant cells. Both, from the standpoint of histology, are indicative of an infectious process. Differential diagnosis, when modern laboratory methods are employed, should not present great difficulties. The blood picture will at once differentiate Hodgkin's disease from true leukemia, either of the myelogenous or lymphatic type. So far as tuberculosis is concerned, it is now generally accepted that those cases supposed to be of tuberculous origin, are really cases in which an intercurrent tuberculous infection has taken place. Therefore, the tuberculous condition is secondary rather than primary. For the purpose of differential diagnosis, we have the family history and the various reactions for tuberculosis; likewise for syphilitic conditions we have the therapeutic test and the Wasserman reaction.

Just a word in regard to the case of myelogenous leukemia reported by Dr. Grigsby. There are three things to use in this type of the disease; (1) arsenic; (2) exposure to Roentgen rays, and (3) the benzole treatment. Of these, the latter is perhaps the most theatrical in its results,

When there has been a marked reduction in the number of white blood cells, it is time to discontinue the benzole treatment. In the cases in which I have seen this remedy used, it has certainly exerted a marked influence in bringing about a reduction of the number of white blood cells, with a corresponding increase in the number of red blood cells and hemoglobin percentage. It is usually administered in doses of ten drops, in a soft gelatin capsule, followed by a glass of milk, three times a day for two weeks, then a rest of two weeks, and then resuming the treatment, and so on, making intercurrent examinations of the blood at intervals of ten days or two weeks, and when the white cell count has been materially reduced, then, after a period of rest, switch over to some of the arsenical preparations and give it in increasing doses.

I believe the concensus of opinion among foreign observers at the present time is that the improvement following this treatment is temporary rather than permanent. This will have to be settled in the future.

Leon K. Baldauf: I would like to ask Dr. Askenstedt if he made diagnosis on the clinical symptoms alone in this case?

F. C. Askenstedt: Yes, sir.

Leon K. Baldauf: While I do not mean to imply that the diagnosis in this case is not correct, I believe the safest method of making diagnosis of Hodgkin's disease is to take out a gland and examine it microscopically. Histologically, the picture of Hodgkin's is perfectly distinct; no other glandular lesion presents a picture like it. Dorothy Reed gave probably the first and most careful description of the glands in Hodgkin's disease, and she believed that some of the cases that Hodgkin himself described were not really Hodgkin's disease.

While, as Dr. Jenkins has stated, the evidence seems to indicate that Hodgkin's disease belongs under the classification of infectious granulomata, there is still some question about it. It is true that we find giant cells, eosinophiles, a great increase in the fibrous tissue, etc., but the giant cells differ from those found in other infectious granulomata, such as syphilis and tuberculosis. Dorothy Reed emphasized the point and it is now generally accepted, that where we find (as we frequently do) tuberculosis co-existent with Hodgkin's disease, the tuberculous infection is secondary; that when the glands are removed in the early stages of Hodgkin's disease, they show no tuberculous infection, whereas in many cases of Hodgkin's disease, examination of the glands in the latter stages will show tuberculous lesions, demonstrating that the tuberculous infection is secondary rather than primary.

Hodgkin's disease does not act exactly like an infectious condition; it acts more like malignant disease. These patients have a definite

anemia. Dr. Askenstedt's cases do not show quite enough anemia.

Carl Weidner, Sr. Is it not a fact that these cases sometimes do not show marked anemia even after the disease has existed for some time? I have found as many as three or four million blood cells after the condition had existed for a considerable length of time.

Leon K. Baldauf: That shows anemia, but a hemoglobin percentage of ninety-five does not show an anemia at all.

F. C. Askenstedt, (Closing): As pointed out by Dr. Weidner, the duration of the disease in these cases was unusually short; as a rule, it averages from one to two years.

As to the diagnosis, I believe with Dr. Baldauf that to obtain absolute proof, a microscopical examination of the glands should be made, but practically it seems unnecessary in many cases. In private practice we do not always have the same facilities that we have in hospital cases, and microscopical examinations of the glands in my cases was not possible. I am, however, convinced that these were cases of Hodgkin's disease. In the first place, I know of no disease other than Hodgkin's disease, except leukemia, that would bring about involvement of as many sets of glands in as short a time as occurred here. The progressive debility, emaciation, diarrhoea and cough showed involvement of the intestinal and bronchial mucous membranes, which, together with enlargement of the spleen in the first case, and the absence of excess of mononucleated white cells, made up a typical picture of Hodgkin's disease. Both cases had fever, which does not always occur in Hodgkin's disease. Here, however, it accounts for the increased numbers of polymorphonucleated white cells. As to the red cells, it not infrequently happens that these will not show a decline in the beginning of the disease. I read an article some time ago in which a number of cases was reported, and I was surprised to note that one-half showed a normal blood count. In my cases, if the blood count had been repeated a few months later, I should probably have found a reduction in the red blood cells. In each case, however, the blood count was made about a month after the inception of the disease, so I do not think that the findings speak against the diagnosis.

In regard to the etiology of Hodgkin's disease, in 1910 Fraenkel and Much first advanced the theory of a diphtheroid bacillus as the cause, and the question has been one of more or less dispute since that time. However, the researches of Bunting and Yates in the past few years have furnished positive evidence. They succeeded in cultivating a diphtheroid bacillus which, upon injection in pure cultures, into monkeys, produced the typical pathological lesions of Hodgkin's, and the enlarged glands upon examination presented a histological picture identical with

those of Hodgkin's disease. Furthermore, inoculation of other monkeys with these glands reproduced the disease. Not only that, but Billings and Rosenow of Chicago, have treated twelve cases of Hodgkin's disease with the autogenous toxin of these patients, and all but one showed improvement. One case made a complete recovery. It is something we may well take notice of.

MEDICAL PROGRESS

DEPARTMENT OF MENTAL AND NERVOUS DISEASES.

By T. J. CRICE, Louisville.

Since Lambroso enunciated his views as to the physiognomy of criminals which caused him to place them in a class by themselves, he has gained many adherents with views modified and also extended. There has developed naturally enough an opposing army of thinkers, who may be divided into those who place the blame for criminal offenses entirely on the social environments of the offender; including his training or rather lack of training from birth to maturity; and those who regard him as wilfully vicious even though morally defective and therefore responsible for his actions.

It would seem that in the course of the controversy the latter view has steadily been losing ground. While the former has not as yet made good in the minds of many, it has lost many from its camps, because of disappointing results, following half-hearted attempts at prison reform without any practical knowledge of the material dealt with. Some of this so-called prison reform for political advertisement and to be able to secure some character of institutional "job" has been practiced to some extent in this state. More and more champions of the Lambrosian idea in its essence, namely that the criminal is inherently abnormal, has come to the front with evidence more or less, and criminology at the present time is fast becoming a medical science rather than a legal one.

There appeared an article written by Dr. Bruce Thompson, 1870, Resident Surgeon in one of Scotland's prisons which argued from the medical point of view in strong terms.

"On the borderland of lunacy lie criminal populations." It is a debatable region, and no more mixed problem comes before the medical psychologist than this, viz., where madness ends and madness begins. The inmates of asylums and of prisons are so nearly allied that thin partitions do their walls divide. The following propositions I believe are well worth our consideration:

1. There is a criminal class distinct from other civilized men.
2. The criminal class is marked by peculiar mental and physical characteristics.
3. The hereditary nature of crime is shown by the family history of criminals.
4. The transmission of other nervous disorders with crime in this class proves the alliance of hereditary crime with other diseases of the mind, such as epilepsy, dipsomania, etc.
5. The incurable nature of crime in the criminal class goes to prove its hereditary nature.

With these propositions, justified or not, they go to show the impression that a close study of the criminal made on a careful observer before the days of modern psychiatry and psychoanalysis before the realm of the sub-conscious mind had been explored by Charot, Freud and Judin, but this new school or phase of the subject is by no means on a footing sure enough to convince either the public at large or the legal profession of the justification for its point of view, nor has it received often enough that respectful hearing in the courts which would have prevented injustice being done not only to the prisoner at the bar of justice, but also to society. Nevertheless, complete justice to both offender and society is slowly on the way and even those who oppose or take no thought of the newer doctrines are unconsciously following in line with them by their attempts to ameliorate the conditions of the convict by agitating for prison reform.

Indeterminate sentences, the parole system and the changing of the prison into an institution for correction and custody rather than punishment. True enough, more of sentiment than of science is back of these methods, and therefore in many individual instances harmful injustice to society and ultimate harm to the offender against society is wrought. This is inevitable in any period transition from an erroneous to a more correct method of dealing with social problems, because of a contact gradually growing more intimate.

Justice to all will come nearer, and it is the psychiatrist, with his collaborator, the psychologist on whom the responsibility may rest most heavily if the newer ideas of the crime as a disease of the criminal as a sick man are to prevail. There is no longer any credited opposition to the view that criminal offenses, petty or otherwise are the product of individual and social disease. With the latter aspect of the subject I am not at present concerned. While the influence of the environment for those most charitably inclined, excuses the offender from responsibility for his condition;

it does not excuse him from responsibility for his acts. But if any offender is a diseased person in the psycho-physiologic sense, his responsibility must come into question before the courts of justice.

Question of Responsibility. Many a medico-legal battle has been fought over this question. The issue has been confused usually because the legal mind has ever thought of consciousness as synonymous with sanity. Because a man knew what he was doing the lawyer has held him responsible, but a man's mental make-up is a very complex thing; it is a bundle of psychic forces and habits which may be summed up in three divisions.

1. Intellect, or consciousness.
2. Emotion, that is, impulse to act.
3. Will, that is, action itself. No two persons are alike in the strength or weakness of one or the other of these forces.

To take the view that consciousness of the wrongfulness or illegality of an act at the time of its commission makes the offender responsible for it and legally sane is inconsistent with the well-founded knowledge of mental functions which we now possess. Conduct is not dependent chiefly on knowledge, but much more on impulse or emotion and a will, capable or incapable of controlling and directing impulse in a way to harmonize with knowledge; that is consciousness. It is just because this complexity of function that so many different kinds of crimes are committed and so many different types of criminals exist and the more or less inadequate classification of criminals that have been attempted by various writers will show when analyzed that consciously or unconsciously the classifiers have characterized the objects of their study according to the mental function most involved in them. Classification:

1. The criminal by instinct who is the born criminal.
2. The passionate criminal who commits crime under the influence of passion.
3. The criminal from chance.
4. The criminal from habit.
5. The insane criminal.

In the first group would be placed those who by reason of some inherent defect involving the intellectual and emotional functions are incapable of developing the sense of love, self-sacrifice, pity, honor, altruism or remorse. Persons whose standard or right and wrong can never be the same as that of the average member of society in the period in which he lives.

These are cases of arrested development in the ethical sphere and represent reversions in this faculty to primitive types. Illustrations of the brute instinct which we all possess, are seen in the class of criminals, whose acts are

due to passion, becoming of sufficient provocation, beyond control, because of weakness of will in the nature of a deficiency or inhibition power in the nervous system. Now it is known from physiologic investigation that it is a function of certain nerve cells and fibers in the cortex of the cerebrum.

In the case of the criminal from choice, we are confronted with a feeble-minded person who is easily made the subject of suggestion, because of deficiency of judgment and who responds to the criminal suggestion because of deficiency of inhibition. Persons of this kind are the tools of the more intelligent in crime, and harmless in themselves, in an environment in which they are safe-guarded from temptation, they lead normal lives. They are children all of their lives in so far as their faculty of judgment and power of will are concerned.

In the class of habitual criminals are to be found those who by reason of environment, especially early environment, lead criminal careers in response to the association of ideas which their environment has aroused, or which has been aroused by psychic shocks during the age prior to that of mature judgment. These shocks have affected the subconscious mind in a way to make it seek relief in periodical reaction, usually of a resentful retaliative nature. Such a career is for them the path of least resistance.

The first crime has relieved the depth of the sub-conscious mind from tension and thus aroused in it sufficient pleasure or desire to cause disassociation of emotion from intellect at the time when the opportunity to commit the crime again occurs. Persons of this kind from the class of recidivists or repeaters and it is noteworthy that prison officials have reported that the subsequent offense of the repeater is exactly like or similar to the preceding one. Their condition may be compared in a measure to that of the kleptomaniac in whom, however, there is a much wider disassociation of consciousness and who is more definitely insane. They may also be compared or likened very closely to the hysterical patient as regards the essence of the disorder. In the definitely insane group of criminals, that is, those having one of the clear-cut psychoses, there are all grades of mental disintegration involving, as in the borderland cases, one or more, or all of the functions of mentality.

Those most prone to commit statute offenses are the paranoiacs. With his disruption of judgment, the epileptic, in whom consciousness is almost entirely split off and who at the time of the act is almost entirely a sub-conscious automatic personality; the kleptomaniac, the dipsomaniac and other drug ha-

bitnes, especially the cocaine fiend, who may commit violence in reaction to hallucinations. Responsibility for crime, committed by persons of this kind can be at once dismissed. But when there are offenders of the first four classes enumerated, to consider, we are brought face to face with the borderland cases, these in psychiatry. These comprise that vast number of unfortunates who are psychopathic, but are rarely committed to hospitals for the insane and are so disposed of only in their episodal periods of excitement or quarrelsomeness. When they recover to their usual level, they are again discharged into society; no more fit than before to cope with its complexities. Among these are the ones who commit petty offenses for which they are sent to jail, workhouse or reformatories for short terms; after their release they soon are returned because of inability to get along in any environment in which they are not closely subjected to organized discipline. They behave very well in custody and if kept so for prolonged periods, would gradually develop habits of self-control, concentration of mind and industry, which would make them self-supporting in occupations fitted for their capacities. The vagrant, the browler, the gangster, the prostitute, the ne'er-do-well all belong to this group. They have been called by several writers "Constitutional Inferiors" and this is a correct term to apply to them. If the particular function of mentality in which they are inferior is designated, otherwise the term is unsatisfactory, for in some of their capacities many of them are found to be exceptionally brilliant or at least superior to the average; that is, in music, drawing, literature and inventions. For these, one writer prefers the term "Constitutional Abnormality." All offenders indeed may be characterized by one or more of the following attributes:

1. Exaggerated suggestibility.
2. Exaggerated egotism.
3. Emotional instability.
4. A lack of altruistic or unselfishness.
5. Lack of the power of sustained energy that is abnormal nervous fatigue.

6. A tendency to the easy disintegration of consciousness which permits the brutal or inferior qualities of the subconscious mind easily to become dominant when temptation occurs and to be uncontrolled by the critical quality of the conscious mind; even when the critical function is sufficiently aroused, the power of direction by the will is in abeyance. Here is again some of the similarity in mental make-up of these persons to that of one affected with hysteria.

Treatment of the Criminal Insane. Are we to abolish prisons and penitentiaries and take

the pessimistic view that all crime is incurable? Shut up all offenders in asylums for the remainder of their lives? Abolishment of punishment is certainly called for and it seems it is gradually coming as the prison is gradually changed into a house for correction and custody, into a colony for abnormal people where they may live as nearly normal a life as possible. Where their individual characteristics and capacities are studied and their lives arranged accordingly. The same change has already occurred in the methods of dealing with the insane as may be seen by a visit to some of our up-to-date State Hospitals.

If these methods are worth while in the case of the chronically insane, they are still more so in the treatment of criminal offenders who though mentally abnormal, are in the majority of instances, amenable to much greater improvement in habits of thinking, feeling and acting; however, such treatment cannot be accomplished without the supervision and co-operation of the medico-psychologic profession. It is perfectly possible for those who have associated for a long time in a professional capacity with psychopathic persons to determine who is amenable to this, that or the other form of correction and to tell when the person is sufficiently corrected in his neuropsychic functions to justify his parole into normal society. It is also perfectly possible for those of the legal profession to determine who should be kept in permanent custody. It is not possible for those of the legal profession to determine these questions justly unless they also have had the training of the physician and the psychiatrist, nor is it possible for them to frame just laws as to penalties. The question of trained physicians I think should especially apply to our insane asylums instead of the courageous politicians dictating who should treat our sick insane in the state of Kentucky.

It is not unreasonable therefore, to foresee the time when the function of the lawyer and the judge will be restricted to the determination of the guilt of the offender and the function of prescribing what is now called the "sentence or penalty," but which some day will be called the therapy or treatment, will be taken over by physicians well-trained in mental diseases who are in the service of the State and consequently free from bias judgment.

T. J. C.

namine, gr. x (0.6 Gm) thrice daily, found effectual in preventing retention of urine and avoiding necessity for catheterization.—Baird.

TYPHOID FEVER.*

By J. F. ADAMS, Bagdad.

Typhoid fever is an acute, infectious disease, the cause of which is the bacillus of Eberth. Pathologically it is characterized by hyperplasia and sloughing of the solitary follicles and Pyer's patches of the intestines, associated with parenchymatous changes in the principle viscera.

Typhoid fever may occur at any age but is especially frequent between the ages of 15 and 25 years. It is less frequent later in life although it has been known to occur in persons over 70 years of age.

MODE OF INFECTION.

In most cases the germ is swallowed, but I believe it is conceded that it may reach the circulation through the respiratory organs, then again it is admitted that they may develop some initiatory lesion in the lungs, pleura or the tonsils then pass into the circulation.

The period between the time the germ enters the system and the development of active symptoms is usually 10 days to 3 weeks, though sometimes longer and occasionally not so long. During this period the patient may not experience anything aside from his normal constitution, but in most cases he complains of headache, languor, muscular pains in the back and limbs and a lack of disposition to work. This condition may last from a few days to a week or even two weeks. Now in a typical case (which I shall confine myself to in this article as it would take too much time and space to speak of all the different types of this disease) we find three distinct stages: first; stage of development, second; stage of fatigium, third; stage of decline. The stage of development is as a rule very gradual, patient usually complaining of chilly sensations and hot flashes with increased prodromal symptoms. We seldom see typhoid ushered in by a distinct rigor and often about this time when we are greatly in doubt as to the nature of the patient's trouble, nose bleed may occur and thus clarify the diagnosis. These symptoms are soon followed by prostration of patient so severe as to cause him to go to bed. Again the disease may be ushered in by severe nervous symptoms as spasm especially in children, or some pulmonary symptoms as bronchitis.

As the initial period progresses the symptoms assume a more severe type; we find a gradual rise of temperature each day showing an increase of from 1.2 to 2 degrees over the preceding day. This condition usually exists for about a week when the temperature reach-

es its fastigium, which marks the beginning of the second stage, which usually lasts about two weeks. During the first week of the second stage the symptoms become more severe, patient suffers more from the continued high fever, the evening temperature usually reaching 103 or 104; pulse usually rapid, but not dicrotic. The headache, which was so marked in the beginning usually ceases, but we usually find mental dullness or mild delirium, especially at night.

The tongue is coated and may be dry and cracked; the abdomen is often tender and distended and about the tenth day we find rose-colored spots on the abdomen or chest or perhaps both. The spleen may be enlarged.

About the end of this week we may have serious complications as perforation or intestinal hemorrhage.

During the second week of the fastigium the previous symptoms continue in severe form. the pulse becoming more rapid and maybe diaerotic, but the temperature may become remittent in type; this is the stage during which we are more fearful of complications as hemorrhage or perforation or hypostatic congestion of the lungs or lobar pneumonia and even if we do not have these complications, the condition of the patient is frequently serious.

This stage of the disease varies in duration according to the severity of the infection.

STAGE OF DECLINE.

We generally find or expect to find on or about the 21st day of this disease in favorable cases the fever declining and the other symptoms improving; this is usually followed by true convalescence, but sometimes we find the disease runs on through the fourth week with symptoms more severe than previous, the patient suffering from diarrhoea, stupor and delirium, feeble pulse, great tympany and even involuntary discharges from the kidney and bowel with the fever continuing into the fifth week or even longer.

CLINICAL SYMPTOMS.

To speak briefly I will say we usually find general in disposition, headache, muscular pains, stepladder type of temperature, until its full height is reached—abdominal tenderness and nose bleed.

DIAGNOSIS AND PROGNOSIS.

I base my diagnosis on the preceding symptoms, especially when the temperature resists full dose of quinine for 24 to 48 hours.

The prognosis depends largely upon the severity of the type of fever, but it should always be guarded, even in the cases seemingly the mildest, as we may have a fatal hemorrhage or perforation when least expecting it.

*Read before the Shelby County Medical Society.

TREATMENT.

As typhoid fever is a self-limited disease, characterized by ulceration of the intestine, I think the chief indications for treatment are to support the patient and keep the intestinal tract as thoroughly disinfected as possible, in order to give nature a chance to repair the ulcers. First I place my patient in a large well-ventilated room, preferably on a mattress protected by a rubber sheet and in all cases I advise them to secure a trained nurse if possible. Then as cleanliness is the first step toward disinfection and in order to cleanse the entire tract and produce a free flow of bile, which is nature's antiseptic, I prescribe calomel combined with bicarbonate of soda in 2 gr. doses for an adult until three such doses are taken and follow this up in 5 or 6 hours with oil or salts, preferably the former, and after the bowel has been well cleansed I give some intestinal antiseptic, of which I prefer salol, in doses from 3 to 5 grs. every 4 hours, according to the age of the patient.

For the high temperature I use either the warm or the cold bath, followed by an alcohol rub as indicated by the condition of the patient. I find in plethoric patients the cold bath to be the best, but in the thin, nervous cases or with children, I prefer the warm bath on account of the lessened liability of shock to the patient. I bathe for a temperature of 102 or over.

In order to assist in the expulsion of gas and thereby relieve tympany and so lessen the danger of perforation and hemorrhage, I use an enema of normal salt solution one day and give oil or salts the next. I support the heart as soon as indicated and often before. I believe it well to begin our precautionary treatment against cardiac weakness about the middle of the second week of the disease by using Strychnia in doses of 1-60 to 1-40 gr. every 4 to 6 hrs. as needed, digitalis when the pulse is rapid or diacrotic. I encourage patient to drink quantities of water and keep him on a strictly liquor diet, as buttermilk, egg albumen with lemon or orange.

I keep my cases in bed for ten days after the entire disappearance of all fever. I feed at regular intervals of 3 or 4 hours, according to amount taken and the way it is absorbed. I have patient use the bed pan every time, if possible, and have him turned frequently to prevent any pulmonary complications or bed sores and I have all body or bed linen kept perfectly clean; when soiled I have them removed and thoroughly boiled, and all discharges from the bowel, kidney, vomited matter or sputum thoroughly disinfected by using bichloride mercury 1-500 chlorinated lime 5 or 6 oz. to the gallon or a solution carbolic

acid 5 to 10 per cent; also the vessel should be kept clean and disinfected.

While I have had no experience with the Serum treatment, except as a preventative, I am heartily in favor of it.

For the delirium I depend on opium in some form, preferably morphine hypodermatically. For intestinal hemorrhage I depend on morphia as required to quiet peristalsis and elevate the foot of the bed, apply ice locally over the abdomen and after the bleeding ceases I usually wait from 48 to 72 hours and move the bowels by enema of normal saline and keep patient in recumbent position till all danger of a recurrence of the bleeding has passed. In severe hemorrhage I use normal saline subcutaneously or intravenously. For perforation, while we have had some brilliant results from surgery, I have always been very successful in letting my cases all die, but I try to let them die as easily as possible by keeping them under the influence of opium.

For the dry, cracked tongue I give turpentine in 5 to 10 drop doses, 3 or 4 times a day and mop the mouth often with some alkaline preparation.

I think we often discharge our patients too soon after convalescence begins, I believe we should keep them under our care until all danger of relapse from indiscreet feeding has passed and after they are discharged, the room and all the clothing and carpets exposed should be fumigated.

THE RELATIONSHIP OF THE PHYSICIAN TO THE PUBLIC.*

By W. F. BOGGESS, Louisville.

It is always a matter of positive pleasure for me to meet with the profession of the towns and country. Those magnificent specimens known as the country physician, those men who have made the profession what it is, who are, next to the ministry, and along with the educator, the back-bone and sinew of American civilization.

It is also a peculiar pleasure for me to come in contact with the clientele of such men. The people who hold up the hands of the physician, who assist him in every way possible in his wonderful unselfish work of saving life, relieving pain and preventing disease. Such altruism as is exhibited by the physician is not shown in any other phase of human life and human activity.

With all this pleasure, however, I always feel somewhat embarrassed in determining my line of thought before an audience of physicians and laymen. It is somewhat difficult to

*Public address at a meeting of the Cumberland Valley Medical Society, Corbin, Ky., on March 26, 1914.

make a professional subject so plain that even a child can understand and appreciate it, and at the same time not appear purile to my erudite professional friends. Yet the layman and the doctor meet on such intimate and important ground, the one so dependent upon the other, and so closely associated not alone in matters of life and death, but in the more sacred confines of home and its protection that I feel there are many subjects, such as the White Plague, the Venereal Peril, Infant Mortality, The Abortion Evil, the Decreasing Birth Rate, The Divorce Mill, Child Labor, The Prevention of Blindness, The White Slave Traffic, Physical Conservation and many other of like importance, about which the profession and laity should meet on a more confidential and intimate plane. In my mind there is so much about which I should like to have a heart to heart talk with my brethren, all practical, all important, and all worthy of a better mind to present, yet it is not my purpose to confine myself to any one line of thought, but shall present in an uncongruous way some thoughts with the hope of exciting present interest and present facts and ideas for future elaboration and study.

Permit me, again to pay a tribute, so deserved, to these splendid professional characters of your county, these noble general practitioners who, with their splendid manhood, that every physician should have, are striving with an altruistic spirit to come in closer touch with you, the people, in our modern warfare against disease and death. For it is through you, the layman, that we can hope to obtain such results. In the battle of life there are, or can be no hired substitutes—an axiom and a truth that no one can appreciate better than a physician. Permit me here also to say that while the layman is carried away by the wonderful and spectacular achievements of modern surgery and specialism, which is oftentimes purely mechanical, dealing only with the material and tangible in life, yet does not grasp, nor fully appreciate his family physician as he should. With acknowledgement of all credit for the wonderful strides of surgery within the past two decades, I must impress upon you that the innermost,—the general practitioner,—deserves as much credit and as much honor, and his achievements have been just as wonderful. He deals with the hidden and the occult. He does the scientific part of the work, makes the diagnosis. While not overlooking or underestimating the wonderful strides of surgery, I must insist that the advancement of internal medicine is even more wonderful. The painstaking pathologist and bacteriologist, the erudite and careful chemist, the scientific and experimental therapist have made di-

agnosis almost an exact science. The physician of to-day is no longer held by the shackles of empericism, but should, and is practicing an intelligent scientific medicine. One of the most wonderful advancements of modern medicine is along the line of prophylaxis, or preventive medicine. The quietness of modern achievement in medicine is the finding and determining the cause of disease and then its prevention.

The country was horrified recently by the terrific and sudden destruction of seventeen hundred lives in the sinking of the Titanic. The whole world was in mourning, and our own fair land was particularly grieved at the untimely and unexpected destruction of so many of our splendid citizenship. Yet, in the United States alone more than seventeen hundred of her citizens are dying daily from preventable and needless diseases. Over these no funeral pyres are built, no loud protestations of sympathy and condolence are uttered. The physician stands out as a beacon light crying out to the laymen for help and assistance, looking to you laymen as his only means of turning the great army of ignorance and selfishness and superstition back with the powerful forces of education and enlightenment that these public talks are given by the physician.

Without going into details I only mention here the magnificent and monumental work that the medical corps of the United States Army and Marine Service are doing to protect our country against the ravages of the Bubonic plague, which is a constant menace to our Western shores, to the protection of our citizens against cholera from the cesspools of Europe, against the yellow plague where the South American countries are in eternal danger to our fair land. The establishment of quarantine stations and leprosy colonies, health inspection of immigrants are all means and measures to keep out diseases, contagion and death. Against the ravages of smallpox and other epidemic and contagious diseases of serious character, our state, county and our municipal health officers, in conjunction with the National Government, when necessary, offer protective measures and means of great value.

Our list of infectious, contagious and preventable diseases are rapidly increasing, owing to our more thorough knowledge of the causation of disease. Disease is never accidental, suffering always has pathology, causation of disease is not always determinable, for we have not only to look to the patient's present condition and surroundings, but also to his past history, method and mode of living, and even go back beyond his birth to his progenitors and ancestors.

Let us consider a few of the conditions by which laymen can do so much for their own preservation, for the protection of themselves and their offspring, for the protection of their state, for the economic value of human life to a State is hard to estimate, and for the help and glory of their physician.

First, the Prevention of Consumption. There is no disease that quite reaches the importance and prominence at this time in the minds of the profession, as well as the laity, as does the great white plague, that awful scourge that is almost as wide spread as humanity itself, certainly as wide spread as the bounds of civilization. A scourge that comes right to the doors of every home and almost to every individual to such an extent that a consideration of any phase of the subject is of great importance.

The last census, which is in itself very incomplete, shows that one million, seven hundred and fifty thousand people in the United States are tubercular. One out of every sixty of our population is tubercular and that one hundred and seventy-five thousand persons die annually from consumption in the United States alone.

Since the discovery by Koch, in 1882, of the infectious nature of the disease the positive demonstration of the cause and the subsequent knowledge of its true pathology and etiology our ideas as to the preventability, as well as the curability of the disease have been materially changed and revolutionized. That it is an absolutely preventable disease is no longer questioned. We have been shown by positive statistics, as well as personal experience that it is not only preventable but in its early stages, curable, possibly as much so as pneumonia and typhoid fever, and at any stage except the last, capable of being arrested and checked.

So it is for a consideration of the possible prevention of tuberculosis that I come to you, not with the hope of bringing new or original ideas, but with the desire that I can awaken in my audience, both professionally and the laity, a more sincere effort to use every means and measure to prevent the further inroads upon humanity by the awful ravages of consumption. If I can awaken any one from the apathetic lethargy that comes to us from something we have always with us, something that because it is so common, so usual, we pay little attention to it, I will feel that my little talk has not been in vain. How wide awake, how excited we become in even the threatened approach of yellow fever or smallpox or some other epidemic, none of which diseases are nearly so fatal, nearly so vital and wide spread in their epidemicity as consumption, yet in the terrible scourge of

consumption we sit supremely quiet and if perchance a few of these unfortunates get well, by the grace of God, we formerly felt that we of the profession have done our whole duty by humanity. The time has come when we should wake up to the realization of not only the absolute preventability of the disease, but also our duty as citizens in bringing about that millenium so earnestly desired.

There are many phases to be considered in presenting this phase of tuberculosis. In the first place let me impress upon you the fact and a fact it is, that heredity plays no part in consumption. The disease is not transferable through the ovum from parent to child to whip up in future years. It is not heredity, but environment that is to be considered.

Only twenty-five per cent. of our consumptives show any inherited predisposition whatsoever, and in these it was not inheritance, but association with the disease, living in a tubercular atmosphere and surroundings. There are only two factors necessary for the development of tuberculosis in any individual. One is the presence of the tubercle bacillus to which we are all more or less exposed. The other is lowered vitality in the individual. The tuberculosis bacilli will not grow in healthy tissue. It will not thrive on tissue whose vitality is up to par. Anything that lowers vitality renders the individual subject to tuberculosis bacilli. Modern civilization, present methods and modes of living, fashion, dress, contention for mammon and social prominence are all destroying human vitality and resisting power. The strenuous times in which we live, the departure from the simple life are not only rendering the present generation candidates for tuberculosis, but are a menace to future generations and progeny as well. For without strong sound parentage, posterity will consist of weaklings. If the human race showed as much concern, knowledge and science in its own propagation as it does in the development of its stock and cattle, humanity would present a different picture. So in the prevention of consumption we must go back to the very beginning of a human life and the child of frail nature or one born of tubercular parents or in an atmosphere that is tubercular, must be brought up with the greatest care and guarded most zealously against any possible lowering of vitality, as well as association with any possible focus of infection.

Tuberculosis is essentially a house disease and when savages give up their rude out-door life and pass the greater part of their time between walls and under the roofs, it soon makes its appearance among them. Yet civilization will march on and the houses will always be a part of civilization, but they need

not necessarily be breeders of consumption. If we have smallpox or scarlet fever or diphtheria in a house we would not think of having a new family move into that house without thoroughly disinfecting it, and yet landlords and owners of tenant houses pay no attention whatever to the infection of a house or a room by tubercle bacilli and this just as infections under the circumstances as any of the other contagious diseases. Until we wake up to the realization of the danger from infected houses, our prevention will be worthless. It has been positively shown that the dust of rooms, hospital wards and other localities by patients with pulmonary tuberculosis contains myriads of bacilli and is infective. The infectiousness in this way is so clearly shown in that the death rate of phthisis is estimated at fifteen per cent. of the total mortality. While in prisons and sanitariums the number of nurses and attendants who are attacked are in direct ratio to the stringency in which sanitary precautions are carried out. Cornet has given us an axiom in "The consumptive in himself is almost harmless and only becomes harmful through bad habits."

Now a few words in regard to the preventability of typhoid fever. A disease that so often plays such ravages in the country and in the smaller towns among the young and the middle age of your citizenship.

This disease is absolutely preventable. For without a preceding case of typhoid fever and the contamination of milk and water or food supplies directly with the typhoid bacillus we would have no typhoid fever. The bacteria of typhoid leave the patients sick with the disease only in the excretions, urine, feces and sputum. These bacteria are capable of living for quite a while under favorable conditions outside of the body. These infective excretions through natural drainage, surface or sub-surface are carried into your water supply and rapidly contaminate. These excretions are carried by flies, birds and insects to be deposited upon your food products, this to be carried into the gastric intestinal tract, or may be carried through the uncooked vegetable, oysters and shell fish.

In one of your neighboring cities a few years ago they had a severe endemic of typhoid fever caused by contaminated ice, made from the water of a creek which was the natural drainage of the town.

We have learned to look upon the common house fly as one of the great and dangerous purveyors of typhoid infection. It was possibly the cause of the great epidemic that was such a commentary upon our inefficient army regulations that they had in our military camps particularly at Chickamauga during the Spanish-American war. Swarming from

the sewer ditches to the kitchen and the dining room, and thus carrying the infection to the food. Hence, the constant cry through the magazines and newspapers and social circles of "swat the fly." To guard against the infection of typhoid, precautions must be taken to prevent the access of infected substances into the mouth. From the hygienic standpoint, especially in regard to typhoid, the pure water supply, inaccessible to contamination is one of the most valuable and important possessions of any community.

By preventing the infectious material being distributed from patients it is theoretically possible to stamp out and prevent typhoid fever in a given district. Not only should the water supply be looked into, but the milk supply is undoubtedly responsible for many cases. One drop of contaminated water in the milk can of warm milk fresh from the cow is capable of infecting many gallons in a few hours, and cause localized epidemics among the people who use this milk.

Our chief aim in prophylaxis, therefore, should be to prevent the distribution of bacilli by destroying them in the excreta as soon as possible after they leave the patient. In this way we not only can prevent contact and direct infection, but by lessening the total number of cases in the community, and so preventing the chance of the infectious agent entering general sources of food and water supply, we may aid in preventing epidemics. The greatest difficulty is in the early recognition of mild cases. These mild cases are especially likely to occur in young children. Correct diagnosis, therefore, becomes an important part in the prophylaxis of the disease. This is greatly facilitated by our present bacteriological methods, and when possible these should always be employed. But for prophylactic measures to be inaugurated it is not necessary to wait for exact, positive diagnoses, but these measures should be put into execution in all cases where there is a suspicion that typhoid fever exists.

Whenever you have a case of typhoid fever in the country or in the town, you should at once give all persons who are likely to have been exposed to the same source of contamination, the typhoid vaccine, for by this artificial immunization it is possible to prevent the infection of persons exposed to the contagion.

I will not take time to call your attention to the wonderful positive results of typhoid vaccination. It is very close to the marvelous, it is without danger, it can be given with absolute immunity, and should be given in all cases where a possibility of exposure to infection is assured. It is also a remedy of much value in the typhoid carriers in whom the ty-

phoid bacillus lives for years, who go about the country spreading the infection from place to place. Typhoid vaccines given in sufficient quantity and sufficiently frequent will render the carrier immune.

I regret that my time will not allow me to go fully into the methods and disinfection of the excretions of typhoid fever patients. I leave that to the intelligence of your physicians who have the cases in charge.

The prophylaxis of venereal diseases is also a question of extreme importance and of paramount interest, not only to the present generation, but for the generations to come. It is a question that we hesitate to handle in a mixed audience, yet whose business it is to instruct in this matter of venereal diseases and their prevention? It should be, but is not, the business of parents to instruct their children, for parents themselves are ignorant. It is not the business of teachers—for such subjects are not embraced in their curriculum, for most of the teachers are themselves young and ignorant and are not capable of handling the subject before a child in a way that it would be educational.

It seems not to be the business of politicians or judiciary or so-called statesmen, for they seem afraid of injuring their political chances, and in the plans of the practical politician, the Utopian dreams of enthusiastic reformers have no place. It seems not to be the business of preachers for they oftentimes know little of the world's ways, and are too often concerned with the "soul's eternal salvation," forgetting that there are sins against the body as well as against the spirit, for which the divine Creator holds us equally responsible. The strange paradox which requires of the ministers of at least one great branch of the church that they refuse absolutely to marry persons who have been divorced, and yet permits them unhesitatingly and cheerfully to proceed to unite in holy wedlock the pure, innocent, unsuspecting young girl, with the gay young man about town, whose blood at that moment is reeking with deadly virus of specific disease, is worthy of thoughtful consideration. The ignorant father of such a girl asks no questions, the shortsighted and improvident state which grants the license asks no questions, the man of God, as he stands in the presence of high heaven before the contracting parties and their assembled friends, does ask a most vital and significant question, which, in its form and upon its face, is apparently an earnest appeal for important information but as he waits for one brief ominous moment after repeating the solemn charge "speak now or forever after hold your peace" he does not expect an answer. So when it revolves itself a

question for the physician to decide this problem of the control and limitation of venereal diseases and to be educator and instructors to the great mass of people who are both ignorant and take not time to consider the welfare of their children and grandchildren.

All of this in regard to venereal diseases brings us to that splendid field for socialistic and economic propaganda which we term eugenics, which simply means proper and right race propagation.

Let me reiterate if the human race showed the same care and concern and science in its own propagation as it does in its cattle and fowls and hogs, and even in the vegetable life, the human race would show a very different and more magnificent picture than it is showing.

Not only in the problem of clean parentage and consequently clean and wholesome physical children, but the development and growth of the mind and character requires the same careful instruction and handling as the cultivation of the most delicate plant and flower.

Children do not inherit their temperament or character or habits, good or vicious, from parents. These things in the child are the results of the early handling in the formative period of their little brains and nervous systems. Nothing disgusts me more than to hear stated that a boy inherits intemperance from his father, or that the girl inherits her nervousness from her mother. These are not questions of heredity, but are results of hereditary environment or the result of lack of scientific care and training of the mind and characters of the children by such parents in their early lives.

To explain the term that I am using, by environment, we mean the influence exerted upon one's nature by things and beings animate with which or with whom we are closely associated and surrounded. This factor in the human life is one generally underestimated and too little appreciated.

While my views as to hereditary influences of parental blood and family history may be a little crude, and may do violence to the sensitive feelings of many who rely so extensively on their family tree and progenital distinctions, yet it is truly Democratic and American to state that it is not what your parents have done or were, it is what you, as an individual do and are, and it is incontrovertible that you and your life work are largely made what they are by your early environment and training.

From a social and personal standpoint there should be no aristocracy, except as to character, nor is there any. It is then easily supposed that what we call heredity—simple abnormalities passed from progenitors to off-

spring is after all but the result of education and training of the central nervous system by environmental influences.

Before we begin to train the central nervous system we should start by overcoming the hereditary and miserable defects in the physical for the offspring of defective parents are themselves physical weaklings. This is true of plant and animal life as well as human. So a delicate and defective physical child can be made a healthy animal, and you can overcome these inherited and congenital physical abnormalities by influence, scientific training and environment. Bring them in close touch with nature and natural forces. Give them sunshine in the real and figurative sense. Sunshine for its body, sunshine, love and affection for its heart. Surround it not only by an atmosphere of nature and natural forces, but also an atmosphere of tenderness, affection, love and educated control and direction, thus bringing around it every natural and divine force that tends to make the normal human being and that in future life promises to make life worth the living.

These are a few of the many problems that must be met on a common ground by the physician and the layman. There are others just as important for public discussion, particularly, such as the alcohol and drug habit curse. This is a problem that would require an evening in itself to discuss.

The subject is one of importance, and should have had devoted to it much more time and consideration than I am giving it. While it is often said that the craving for stimulant and narcotic drugs is a vice of civilization, yet it is a question whether with the advance of civilization the use of stimulants and narcotics is more prevalent. We find it among savages, among the aborigines each nation or tribe having its stimulant and narcotic, differing somewhat in character and mode and manner of use. The instinct of self preservation not only carries with it the desire and longing for life, but also contains a desire for all that there is in life, for the fullness of it, its pleasures, its happiness, of its rest, that is not made or caused by schemes or work, but by happy pleasurable realization. The instinct to live life in comfort and happiness is as great as the instinct of self preservation.

I think in our modern civilization and in the method and mode of our living, and in the high tension that modern civilization keeps individuals when it comes to our present consideration we are all neurotics. For quickness and sensibility, acute perception and alert muscular reaction are the qualities of high breeding and not morbid characteristics.

The opposite phase of civilization; the naturally ignorant and degenerate, where the

higher intellectual faculties are subdued and undeveloped and the individual controlled almost entirely by passion and vice, it is an easy road; and I might say a natural road to drug subjugation. Hence the tendency of advanced civilization is to a greater use and demand of stimulants and narcotics. Not alone by the layman, but by the educated and refined physician. The care of our inebriates and drug habitues by the State and municipalities is a crying need that should appeal to the people, and through the people to their legislators and officials. The States should be aroused and educated as to the economic needs and necessities of State help for these drug habitues, these physical and moral derelicts, that have become so on account of the use of the drugs, and our legislators and civic officials should be urged to assist the profession in establishing this whole subject of treatment of habitues on a thoroughly practical yet scientific basis.

If I have in this rather wandering talk given you, the layman any thoughts for future elaboration and study, I will feel that my visit to your beautiful little town, with its intelligent and splendid citizenship has not alone been a pleasure, but a profit to not only the present but future generations.

COUNTY SOCIETY REPORTS

Henderson—The Henderson County Medical Society held a very interesting meeting in the rooms of the Commercial Club on May 25th, 1914.

Arch Dixon read a paper on "Ileo-Colitis," which was freely discussed by the following: Drs. Ligon, Hancock, Graham, Letcher, Floyd, Neary and Galloway. In closing Dr. Dixon said that the supervision of the milk supply should be looked into. The following doctors were appointed by Dr. Ligon, who was acting President in the absence of Dr. Poole: D. O. Hancock, Chairman; — — Floyd, and J. H. Letcher, to look into the milk supply and make the recommendations thought necessary.

D. O. Hancock reported a case of "Tetanus," which was freely discussed by all present.

As there was no further business before the society, it was moved and seconded to adjourn.

B. J. NEARY, Secretary.

Pancreatitis, Subacute.—Treatment. 1. Rest 2. Limitation of diet. 3. After acute attack of pain has passed off, cholecystostomy.—Archibald and Mullally.

KENTUCKY MEDICAL JOURNAL

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C. L. WHEELER

DERMATOLOGY
M. L. RAVITCH

GENERAL SURGERY
J. R. WATHEN, F. H. MONTGOMERY

PAEDIATRICS
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MENTAL AND NERVOUS DISEASES
CURRAN POPE

EYE, EAR, NOSE AND THROAT
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PRACTICE OF MEDICINE
W. F. BOGCESS

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EDITORIAL.

THE AMERICAN MEDICAL ASSOCIATION AND CHICAGO.

The Lancet-Clinic has raised a point for serious consideration as to the location for the permanent home of the American College of Surgeons. A movement is on foot to locate its headquarters in Chicago. We trust that this discussion is academic, as we feel sure that the Board of Regents will profit by the experience of the American Medical Association and will not make the mistake of locating in Chicago. In many ways the metropolis of Illinois is the greatest of American cities, but most of the elements that contribute to its greatness help to create a medical atmosphere that is a serious detriment to an organization, the headquarters of which are located there. To those who have followed closely the history of the American Medical Association, it is no secret that most of the mistakes and practically all of the personal bickerings and feeling that have entered into the councils of the American Medical Association have been engendered by the local jealousies of Chicago medical politics. Frequently it has been impossible to seriously consider the great policies of the Association because of the personal attacks on its officers, and because the things that have happened in Chicago have forced every loyal member of the Association to stand by them right or wrong. The rank and file of the profession have not understood that practically all of these outrageous and unjust attacks have been caused, not by anything in which the profession as a whole is interested but by what has been a part and parcel of the bitter and unrelenting factional campaign to secure control of the Chicago Medical Society and the Illinois State Society. In spite of all these things,

the Association has accomplished wonders. Dr. Simmons has builded up the greatest and most influential medical JOURNAL and its influence is unsurpassed, but the time has come when the medical profession of America is entitled to consideration. As individuals and as an organization it is on trial now as never before, before the bar of public opinion and if it is to succeed eventually in its great aim and purposes, it will not be because its leaders are great men or have great motives, but because of the rank and file of its members and each and all doing something to further these purposes. In other words, it must be real organization and not merely a list of subscribers to THE JOURNAL. Whatever sacrifices, whatever changes are necessary to accomplish this purpose should be brought about speedily, and, if necessary to move the headquarters of the Association to some place where the local environment will be better than in Chicago, there ought to be no question but that when the membership is advised of such a necessity the removal will follow. We trust the *Lancet-Clinic* will continue its investigation of the matter and that a dispassionate discussion of it will take place throughout the organization that we may all be advised of what is best for American medicine.

MALT SUGAR IN INFANT FEEDING.

In our advertising columns we are pressing the claims of Dextrin-Maltose or Malt Sugar in Infant Feeding. This is a very important matter. Most Kentucky mothers nurse their own infants. Ninety-nine of these out of every hundred should do so and any artificial substitute for the natural mother's nourishment falls far short. However, every few months it is necessary for some baby to be put on some artificial nourishment. The American students of diseases of children are fast following in the footsteps of the German in the

preparation of artificial infants' food and they seem especially impressed with the German studies with regard to the sugar content. In Kentucky, practically, all artificial food will be one of complicated preparation, or, in the vast majority of cases, cow's milk. Practically, the rational modification necessary in cow's milk can be arrived at by diluting it with water, varying the proportion of milk and water to suit the individual case, the carbo-hydrate being supplied in varying amounts of malt sugar, possibly the most readily assimilable of sugar.

THE JOURNAL is very much interested in this whole question. The problem of infant feeding can best be worked out by the family physician who actually sees his little patients in their normal surroundings and sees them often enough and intimately enough to know how they are really doing. We suggest that you write Mead Johnson & Company, Jersey City, New Jersey, for their literature on this subject and we believe it will pay you to try Dextri-Maltose with your hand-fed babies.

POOR RICHARD'S ALMANACK.

The New York Pharmacal Association has recently sent us a copy of Poor Richard's Almanack for 1914. This is extremely interesting and valuable and we are sure that every medical man will appreciate the activity of this progressive firm in getting out its publication. If you haven't secured a copy we would advise you to write for one.

OUR ADVERTISERS.

Are you thinking of buying anything? If so, look through the advertising pages of THE JOURNAL and see what firms carry the articles you want. Go a step further than that and when you buy let the firm know that you saw their advertisement in your JOURNAL and that your patronage is the result. We do not permit the advertising of any firm or article that is not reliable to appear in our advertising pages. Therefore, you may depend on them as a safe and sound business directory.

Our advertisements are paid for by those who expect some profit and return for the expenditure. They should be mutually helpful to the reader and to the advertiser. The fact that the advertising appears in THE JOURNAL is sufficient to commend it to your favorable consideration. The advertisers help support THE JOURNAL and as the advertising income increases so will the size and value of THE JOURNAL increase. Let the advertiser know that you saw his announcement in THE JOURNAL.

SCIENTIFIC EDITORIALS.

ONE REPLY TO MY TWO "SCLERODERMIC" FRIENDS.

I was surprised that this JOURNAL allowed the publication of such replies as signed by Stallard and Sanders. Both gentlemen planned an attack, but not a reply. It is nothing short of abuse and vituperation.

When I wrote my editorial on scleroderma, I meant to ridicule the lay press who frequently sent out sensational reports about this "mysterious" disease, and never mentioned the profession. There was no occasion whatever for Drs. Stallard and Sanders to make such a combined vicious attack. If these two medical confreres are so well posted in medicine, and dermatology in particular, it would not hurt them a particle to take a post-graduate course in letter writing and use more polite epithets than "fool" and "quack" toward a brother practitioner.

Your humble servant was not so fortunate as to be a graduate of the great University of Louisville, but is often called in consultation by the professors of this university, and he has given special instruction in dermatology to many physicians and also graduates of the University of Louisville. Since the honored gentlemen of Pikeville asked for my credentials, I will say that your humble servant, to whom you referred, in the heat of passion and anger, as a "fool" and "quack", holds a title of M. A. and M. D. of the University of Moscow; is a member of the local county and State Medical Societies, a member of the A. M. A., and has been an active member of the dermatological section for the last sixteen years. I am one of the associate editors of the Journal of Cutaneous Diseases and a contributor to the American and foreign medical literature. If the gentlemen will look into Stelwagon's work on dermatology they will find my name referred to several times. They will also find my name referred to in French's "Practice of Medicine." At the request of the best known dermatologists in the United States, I have made plans to translate one of the best Russian works on dermatology and will have the co-operation of men like Stelwagon, Gotthel, Ravogli, Sutton, McKee, Fox, Dyer and others. Your humble friend sees over a half dozen cases of scleroderma yearly. He is only sorry that the graduates of the University of Louisville do not see such interesting cases. Only a few weeks ago a very interesting case of circumscribed scleroderma was referred to me by Dr. W. W. Wilson, of Henderson, Ky.

So long as the best physicians in Kentucky

and the best dermatologists in the United States very often refer to my dermatological cases, and among them the jovial secretary and editor of this JOURNAL, I won't lose very much sleep over the opinion of two vituperative and self-satisfied "sclerodermic" antagonists.

I have enjoyed the hospitality and courtesy of a great many country physicians from various sections of Kentucky, and do acknowledge that the majority of them have a good education and plenty of sense, but I doubt very much if I would become "a wiser and better man" (Stallard's expression) by a visit to men who only know how to abuse.

Fraternally yours,
M. L. RAVITCH.

THE PROGNOSIS AND TREATMENT OF SKIN TUBERCULOSIS.

While many remedies were suggested and favorable prognoses were made in regard to tuberculosis of the skin or local tuberculosis, no definite conclusion as to a final and specific treatment has been made. The consensus of opinion is that we do not know as yet whether tuberculosis of the skin is a disease, so to speak *in ipse*, or a local manifestation of general systemic tuberculosis.

The more thorough investigators into the cause of skin tuberculosis are of the opinion that it is a purely local disease, and, that being the case, it should be easily combated.

It should be remembered that the majority of grave and disfiguring forms of lupus vulgaris is to be seen in early childhood or adolescence, when the disease consists of a small number and, rather, small foci. The aim of treatment of skin tuberculosis depends a great deal upon knowing how to reach the different foci, and then handle them in the proper way. It should not be forgotten that we often see local tuberculosis of the skin complicated with tuberculosis of the lungs, bones and glands. In the latter cases, the disease being more serious, needs more energetic remedies, such as change of climate, rest and nutrition. Notwithstanding the most energetic remedies, the prognosis is not very favorable. Sometimes the tubercular process may appear on the face from the diseased nasal and oral surfaces.

According to the statistics of Jungmann, out of 1809 cases 775 were found in the region of the mucous membrane. Hence, the therapy of the latter cases are found more difficult and the prognosis more serious than of the ones that attack the skin purely.

Looking over the different methods of treatment by the best known authorities, I find that the tuberculin treatment is the most ineffective one and it is a very dangerous agent

to use. Though some writers claim some virtue for it, yet Jungmann, who had very extensive clinical experience with it, could never see any good results.

Of the many methods of treating tuberculosis of the skin, the two most effective ones are surgical and light treatment. The first method, surgical, such as ablation of patches of lupus and following by skin grafting according to Thiersch's, is highly praised by Lange, but it must not be forgotten that this method is successful only in cases where the multiple foci are not extensive and of recent origin; on the other hand, where the diseased foci are more extensive and numerous and, particularly, if they are located on the face, this method is rather prohibitive. The operation for excision or ablation of the tubercular glands, nodules or other foci can be accomplished under local anaesthesia. Out of 535 cases of tuberculosis of the skin operated by Jungmann, 400 remained in a good shape for a long time; in 10 per cent. of the cases the disease re-appeared within one to five years.

Curettment and erosion were practiced by Anderson, Vigo, Vidal and Unna. This method has a great many followers. Success lies in the technic and good judgment.

Carbolic acid and iodine have given me brilliant results. This method was originated by Sherwell.

Multiple scarification and multiple punctures as practiced by Pick, Vidal and Veiel, are methods of doubtful value. Galvanic and Paquelin's cautery are, by far, better methods and they have the earnest support of Hutchison and Besnier, while Lustgarten and Jackson adhere to electrolysis.

Of the modern methods, the most radical measures are Finson light and radiotherapy.

Sunlight is the basis of the Finson light method. It was known and used for centuries. But as the sunlight was not always available, the electric arc light is concentrated by means of an apparatus which cuts off the heat rays and leaves only the actinic rays. Finsen Light, being too expensive and rather complicated in its application, many smaller lamps were invented. Among the smaller ones, Finsen-Reyn's lamp is the nearest type to the true Finsen's. Since seances have to be given from one to two hours and for a long period, this method is rather tedious and prohibitive. The latest statistics show that only from 30% to 40% of cures have been accomplished by this method. This method is not applicable to lupus of the mucous surfaces or to ulcerating or vegetating lupus. The chief advantages of this method are the painlessness of its treatment and its excellent cosmetic effect.

Roentgen ray treatment comes next in value. To my mind it is far superior and

more effective than the Finsen method. It is particularly useful in necrotic forms of skin tuberculosis, such as serofuloderma, lymphangitis or lymphadenitis tuberculosa.

The much advertised Quartz-lamps may be useful in the very superficial forms of skin tuberculosis, but absolutely useless in deep-seated ones.

High Frequency Current has been successfully used by Ondin and Brocq, but I doubt its efficacy. Chemical pastes made of resorein, salicylic acid and pyrogallol acid are at times useful. Hot air current up to 300-C on one hand, as freezing with ethyl chloride on the other hand, have been employed. Pusey's carbon dioxide snow has been tried. Lately, potassium permanganate has been advocated by Schultz, but it seems that none of the methods have proved specifics in the treatment of tuberculosis of the skin.

M. L. RAVITCH.

ORIGINAL ARTICLES

HEALTH PROBLEMS OF KENTUCKY.*

By D. P. CURRY, St Charles.

We meet here to-day with a pregnant program. One that appeals to every true physician, quite contrary to popular opinion that classes us with the charlatan and quack, or commercial man and financier, who must necessarily foster and encourage a growing market for their wares as competition and production increase. With the medical profession a paradoxical state exists. Each year sees our own ranks swelled every commencement season by still larger numbers of better equipped, younger men. The cost of gasoline and other necessities of life soaring skyward. Luxuries of to-day beoming necessities tomorrow. Increased equipment demanded. And yet we seriously devote, not only this day, but our very best efforts every day, to the *prevention* of disease.

No longer simply to alleviate pain and distress—these are but incidents—but the whole aim of the medical profession of the day is to meet the attack of disease at its very source and by preventing, or destroying, or removing that source, to which most diseases can be traced, we not only protect and lengthen life, but, sad to relate, many honest dollars are diverted from the pockets of the physician and retained by those who reap the fruits of our endeavors. It is our proudest boast that we have accepted this condition of affairs and that in the world to-day you can hardly find an example of a single renegade physician who would place a straw in the path of the

progress of this greatest of humanitarian sciences—preventive medicine.

We accept our cross of impecuniousness and our crown of ingratitude and ask only of the future that we be written among those "who loved their fellow men." Yet though I say none will impede—is it true that we have left nothing undone? Is there not much, lying at our right hand and at our left, that is imperatively calling for our own devotion and enthusiasm? Shall we place all the burden on others, and await for the millennium with our own hands folded in selfish ease or else opened only in covetous eagerness? Is it not true that we have right here a great mass of people still in a state of medieval ignorance as to infection and contagion, hygiene and sanitation? Even Jenner's wonderful discovery after a century of massed proof, is it not repudiated in our midst?

God spake through the prophet Hosea and said, "My people are destroyed through lack of knowledge." Who then shall give them knowledge, that they be not destroyed? Is it the preacher? He seldom has it in this sense; Is it the teacher? the lawyer? the merchant? No, neither of these is qualified. Only the doctor, trained by study and observation and experience, with his sense of the due relations and proportions and significance of such scientific knowledge as is necessary to the people, can administer to this need. And then again, who but the *home* doctor, who knows his people, his locality, their most pressing needs and greatest deficiency?

There is in the State of Kentucky an organization of which Kentucky is justly proud. In 1879 our present Governor appointed the first State Board of Health. Could I, in my own 35 years of life, point to as great growth in spirit and usefulness as has this board in the same period of time, I should be a colossus indeed among men.

The State Board was extremely fortunate in the choice of its first and, until recently, only executive secretary. Under its initiative Kentucky people have been protected and, in a large manner, instructed, Kentucky doctors have been stimulated and assisted, wise legislation enacted and enforced, quackery and incompetency eliminated or repressed and medical instruction perfected, until, to-day, no Kentucky physician need be ashamed of the reputation of his compeers before the rest of the world.

The State Board of Health issues a bi-monthly bulletin which is placed gratis in the hands of all physicians and educators in the State. One who has read and preserved these bulletins as I have can appreciate their value. They deal with such subjects as hookworm, tuberculosis, typhoid fever, small-pox, scar-

*Read before the Hopkins County Medical Society.

let fever, vital statistics, the Kentucky Sanitary Privy (of which I shall say more later), and others, all written in a style acceptable to the physician and captivating to the layman. Any citizen of Kentucky may have his name placed upon the mailing list by request.

Another feature of the State Board's activities is its corps of Sanitary Inspectors, working in conjunction with and assisted by the Rockefeller Hookworm Commission.

John D. Rockefeller, being impressed with the prevalency of hookworm in the South and its pernicious effect on whole masses of people who were in ignorance of its presence among them, gave the sum of one million dollars to be used toward its eradication. Chief among the ideas of this benefactor was this: that hookworm, being comparatively gross in its morphological structure, widespread in its distribution, and seemingly miraculously curable, could be easily and graphically illustrated to unscientific minds, and, using this as an object lesson, other more difficult forms of infection and need of hygienic reform could be demonstrated. Results have confirmed this belief. No county in the South has been visited by the hookworm campaign without yielding returns that at first astounded as well as gratified the workers.

The plan is as follows:

A county, to avail itself of the work of the commission, must first appropriate or subscribe a sum sufficient to pay the expenses of the workers. (Not their salaries, however, these being paid by the State Board of Health and the Rockefeller Commission.) Usually \$500 suffices for a six-weeks' campaign. The force consists of an inspector with a stereopticon for illustrating his lectures, and two microscopists who do their work publicly and encourage bystanders to take a peep. At least a dozen dispensary locations in the county are appointed and these are visited about three times during the campaign. Lectures are given, specimens of feces are examined, diagnoses are made and treatment for hookworm supplied free of charge. While hookworm is the main object of the search, it is, as I have said, also with a view of catching and holding the mind of the audience so as to allow the inspector to drive home his points upon all infectious diseases and their method of dissemination. The house fly with his disgusting habits, typhoid fever and tuberculosis being dwelt upon.

How illuminating is the picture drawn by this man! He tells of the house fly; born in the manure heap, feasting to surfeit in the privy (possibly typhoid infected), then visiting the kitchen, pantry and dining-table where he disgorges his last meal in order to avail himself of the present one. To hear him

describe the two forms of "fly-specks": the one small and brown, or black, being the alimentary dejecta; the other, larger and grayish in color, being the vomitus, or filthy food, discarded, like the Roman Emperors of old, to make room for the more savory food of the table. Could one forget it or ignore it? Fly screens are always in demand after a visit of the hookworm squad.

The writer was appointed last summer by the State Board of Tuberculosis Commissioners to represent them in a sanitary campaign in Christian County. At first he was associated with that most lovable of men, Dr. W. W. Richmond, whose every lecture was an ovation and who, sacrificing his health in his strenuous activity, was compelled to retire from the scene of his labors at the very moment when his efforts were about to be crowned by an exhibition of almost unbelievable enthusiasm. Just picture in your mind, if you will, a thousand country folk, coming at ten o'clock in the morning, some from many miles away, and staying until ten-thirty at night. School children, half a dozen large wagon loads of them, gaily decorated with flags, banners and bunting; barbecued mutton, on tables staggering beneath a load of the finest products of the farmwife's skill; politicians by the score; preachers and teachers; water melon and pop vendors; everybody and his brother. And for what? You might, if you saw the crowd unexpectedly, say it was a circus, or a county fair. But could you believe that it was to hear a few doctors preaching the doctrine of good health and how to keep it? Nevertheless, that is what happened day after day in Christian County, Kentucky, and I presume it is the same elsewhere.

Dr. Richmond's place was taken by Dr. M. W. Steele, who made a record of national repute by working against hookworm in the mountains of Kentucky, both before and after joining the Rockefeller Commission.

In Christian County a very small per cent. of hookworm was discovered. Yet in that part of the work in which your essayist was engaged a frightful state of affairs was found to exist. Tuberculosis everywhere! 25% of the county's death rate! As a result of the campaign the county last fall voted to establish a tuberculosis sanatorium and the present Fiscal Court has appropriated money for the purchase of its site. I quote these incidents to show that the people can be expected to do their part in a popular health campaign.

Let us now turn our attention to Hopkins County. Can we expect to benefit from a similar movement? In 1911 we had 491 deaths and in 1912 490 deaths. Practically one out of every five was caused by tuberculosis, one out of every twenty by typhoid fever; nearly

one-half of the entire death rate was from causes that are classed as preventable. These figures, which may be read more in detail in the published reports of the Board of Health, it seems to me, amply justify us in planning a campaign for popular instruction, especially at this season of the year when the most fatal of the infectious diseases prevail. Already, in my own small town (I blush to say it) we have had six cases of typhoid fever with one death this spring. Last summer we had about 24 cases with one death. A peculiar feature which I may mention in passing, is that nearly all those afflicted were children.

How, then, should Hopkins County set about its task? Undoubtedly the most effective way to achieve results would be to call upon the already organized and equipped forces of the State Board of Health. I should love to see that grand old man, Dr. Richmond, turned loose amongst us for six weeks. Unfortunately, two serious obstacles present themselves. Those of us who have been engaged in the recent efforts to interest the Fiscal Court in the county farm demonstrator and the tuberculosis sanatorium will know what the first and most inseparable one is. Our present Fiscal Court, in spite of its able and broad-minded County Judge and Attorney, are impregnable when it comes to appropriating money except for traditional or inevitable expenses. The second difficulty is that a purely hookworm campaign is nearly bound to fail, for it is the experience of myself and others that hookworm is rare in this section of the State. While it does exist sporadically, it is not here in such appreciable numbers as to make it valuable for a demonstration. Vastly different is it from the eastern part of the State where as high as 75% of the people are infected and cases may be spotted at random in every audience. Nevertheless, many other forms of intestinal parasites are to be found here. The plan that suggests itself to me is a simple one, yet one that calls for a degree of sacrifice, effort and devotion from every doctor in the county, without an exception. We can conduct our own health campaign without any funds.

In the first place, the campaign must be fostered by this society and every other physician in the county. It should receive the endorsement of county and municipal officials, churches, organized commercial bodies, and fraternal societies. All other means that will lift it above suspicion of concealing any selfish motive on the part of any one man or set of men for their own profit or aggrandizement be employed. Officials and men of standing in the community should be asked and expected to take part in the program. Even the candidate for political office should be invited

to be present. It should be the aim first of all to attract attention and draw a crowd. Newspaper publicity is a *sine qua non*. Past meetings should be reported and future ones announced. The public must be taught to take an interest in the whole campaign and to desire to have it brought into their community.

Let the county be divided into a number of convenient districts and let the physicians in that district be the committee in charge there. We could hardly devote every day for six weeks to the work, nor, as this paper does not contemplate a hookworm campaign, would so long a time be needed. Neither need the meetings be held on consecutive days. Saturday afternoon and evening or other holidays best suit the working man and his family.

The committee in charge of each district could select their own speaker—either one of themselves or another—yet the arrangement should be definite and positive. A disappointed audience is an embarrassing thing. I believe that physicians of neighboring counties would be glad to be honored by requests to deliver lectures in this campaign. Even our State Board of Health might be expected to cooperate with us and occasionally send assistance. The Drs. McCormack, father and son; Dr. South and Dr. Heizer are always drawing cards. I also believe it possible to borrow from the State Board of Health and the Tuberculosis Commission a stereopticon and slides that will draw crowds at night lectures.

Now, what shall we teach?

In this county, as everywhere, tuberculosis easily comes first, outnumbering any other cause of death over 4 to 1. Then typhoid fever and the other fatal bowel troubles, and all other infectious diseases. Simple talks on germ life, personal hygiene, home hygiene, ventilation of home and school, sanitation and the many other things that will suggest themselves to each of us.

One of the most effective things that I have seen in my work on the tuberculosis car and in the county campaigns is the Kentucky Sanitary Privy. Wonderful invention! I do not know who first discovered the principle of the septic tank. But I do know that as adopted by Dr. McCormack it is easily the most practicable one that is in existence! Every one of us is too thoroughly familiar with the evil smelling, fly incubating, disease disseminating horror that most Kentuckians use as a toilet. Show your audience a cut or a model of a permanent, inexpensive, automatic privy—without septic or offense or menace—that can be placed close behind the kitchen, or even made a part of the house when properly constructed, and you will be gratified at the interest shown in it. We are just completing one

in Saint Charles, and I hope, through its demonstration, to see many more built in that section of the county. School trustees especially should have their attention directed to this feature. Jefferson County, as a result of the demonstration at the State Fair two years ago, ordered two Kentucky Sanitary Privies built at each school in the county, nearly 200 in all.

Now, gentlemen, I have written longer than I had intended, and, having probably exhausted my audience as well as myself, I shall briefly close. On such vast questions as preventive medicine, sanitation, hygiene, and other kindred subjects, many volumes have been written and are at your command. But that part of this knowledge which the people among whom we live and labor need they cannot get, even from the books, without losing themselves in a maze of theory and technical terms. It behooves us, then, to spread such knowledge as they may assimilate with profit. The plan I have faintly outlined is a mere suggestion on my part. It is yours to consider and develop, or to reject. No one man can carry it out alone. Only a united effort on the part of this society and those whom this committee of the Hopkins County Commercial Club represent and these others whom I have mentioned can make it feasible and profitable.

But I prophesy this. That it is in the power of Hopkins County to make itself famous among the peoples of the world. That community that first puts into practice the laws of health, even as we now know them, shall light a beacon by which the rest of the world may steer its course. That community which first reduces its list of deaths from preventable causes to practically "0," will raise a host of sons and daughters fit to sit in high places and rule the world. For ignorance is the throne on which sits the three evils—disease, pauperism, and crime. Indifference is the guard that protects that throne. We must first grapple with our own slothful indifference and give to God and His people that service which we alone can give, even though our own reward be, not in worldly wealth, but in the consciousness that we have received and discharged a faithful trust.

Hemorrhage.—Treatment. In operations where bleeding from bone troublesome, cut a fragment of muscle from any convenient place in operative field and apply to bleeding bony surface or edge. Rub in if it will not adhere at first. Always efficient in arresting the bleeding.—Vaughan.

TUBERCULOSIS.*

By W. L. HEIZER, Bowling Green.

PREVALENCE.

Tuberculosis is the greatest health problem of Kentucky. As shown by the official death records secured under the operation of our Vital Statistics Law for three years, tuberculosis was the cause of more deaths each year and for the three years than typhoid fever, diphtheria, measles, scarlet fever, whooping cough, cancer, meningitis, influenza, and all of the murders and suicides; in all, 14,821 Kentuckians were sacrificed in this period to this needless, preventable disease, most of these were in the prime of life, and in addition an army of 88,926 people were victims of the disease, nearly all of whom will make up the death records of equal volume in the next six years. Furthermore, this vast army of sufferers scattered in every school district of Kentucky are ignorant of the nature of their disease and are scattering its seeds by the millions in the homes of their friends and families, in schools, and other public places so that the high sick and death rate will continue to be exacted in the life-blood of the very people for whom the State is now spending nearly three and one-half millions of dollars each year to educate. Heretofore, this education by the State has carefully avoided teaching this life and health-saving knowledge to the extent that more people die in Kentucky on an average of tuberculosis, typhoid fever, and like preventable diseases, than die in the rest of the United States where records are kept—many parts of which have as high death and sick rates as Kentucky.

So long as the State through its State Department of Education and Text Book Commission continues to withhold the necessary knowledge to prevent them, the sick and death rate with the resultant suffering, sorrow, and monetary loss will continue to be as high or higher than at present.

CHARACTERISTICS.

Tuberculosis usually develops slowly and without pain. It may attack any part of the body but most frequently the lungs. It affects all ages but particularly children and these in earlier years of maturity, child-bearing women being frequently the victims. It is infectious and whole families are sometimes destroyed where close contact and unhygienic conditions obtain. It is not inherited and the only part heredity plays is one of lowered resistance or weakened vitality which might be expected from the offspring of those physi-

*Public Address at a meeting of the Cumberland Valley Medical Society, Corbin, Ky., March 26, 1914.

ally unfit to bring children into the world.

In children, the intestines are usually the gateway of infection and the disease appears first in the lymphatic glands of the mesentery which firmly anchors the intestines in their proper position. Thence, the infection in the later years of life often spreads to the lymph or blood current and lodges in the lungs most frequently. Then develops the disease commonly known as "consumption," "cold on the lungs," "deep colds" of a long duration accompanied by the characteristic signs, "consumption brought on by exposure," "weak lungs," "spot on the lungs," "lung trouble," "hemorrhages," many cases of "bronchitis," "stomach trouble" if accompanied by cough and expectoration, and repeated attacks of pleurisy. If the disease germs lodge in the lymphatic glands of the neck and grow the disease then is commonly known as "scrofula," "scrofulow," or " 'kernels' in the neck." When the disease locates itself in the hip or knee it is known as "hip joint disease" or "white swelling." When it attacks the bones of the spinal column, crumbling away the bony blocks that keep the body erect, this form of tuberculosis is known as "Pott's disease," and results often in the well-known condition of "hump-back" which is nearly always attributed by the laity to a fall in childhood, but never is.

CAUSE OF TUBERCULOSIS.

The only cause of this disease is a seed or germ which, like all disease producing germs, multiplies very rapidly under the favorable conditions of food, warmth, moisture, and absence of sunlight and enemies. It is as foolish to try to grow beans without a seed as to expect "consumption" to occur in the absence of its seed, the bacillus of tuberculosis as it is called. This seed or germ can be easily grown in an incubator and Dr. Koch in his efforts to find a cure grew them in masses that weighed a pound or more. The billions that enter into such a mass can be imagined somewhat by recalling that each germ is so small that 10,000 laid end to end would not measure much more than an inch.

Under the microscope it appears often staining as a slender red or reddish rod, hence its name, *bacillus*.

The facts necessary to prove that a certain disease caused by our particular germ are very simple.

1st. Every such disease must show that particular disease germ.

2nd. That particular germ when injected into a living body (a guinea pig for example) must produce a like disease and no other.

3rd. Upon growing that particular germ, outside the body it must reproduce itself and no other.

COURSE OF THE DISEASE.

When the germ or seed finds lodgment anywhere in the human body its growth results in tubercles. These are nothing more or less than a growth of cells in which nature is making a strong effort to limit the spread and stop the activity of the germs through the action of the white blood corpuscles and cell growth. If nature is successful, these tiny tubercles will be walled off by tough connective tissue and the white blood cells will devour all of the germs of the disease. Failing in the first efforts, other and numerous tubercles are formed as the battle is waged and many times a mass as large as a walnut or even larger will be found in otherwise healthy lungs, completely surrounded by a tough capsule inside of which the germs with the debris of the battle—broken-down corpuscles, dead germs of tuberculosis, tissue cells, etc. will be safely imprisoned to protect the rest of the body. In the dissecting rooms of medical colleges, such healed tubercular processes are found in about sixty-five per cent of all lungs of people who have died of other diseases. It is estimated that nearly three-fourths of the human family have had, have, or will have tuberculosis. Not nearly so many die of it now as formerly (in Kentucky one of every six deaths was due to tuberculosis in the past and perhaps will continue to be true for a number of years) so it is perfectly apparent that many thousands of cases of tuberculosis are cured, many of them being cured without the knowledge of the fact that they have had the disease.

If nature is unsuccessful in limiting the spread of the destructive germs, the process is carried out further and further into the lung tissue, for example, moving in the line of least resistance. From the tiny speck, microscopic in size, it grows till it becomes large enough to see or feel and finally in fatal cases a whole lobe, or lung, or large part of both lungs, will be filled with these destructive growths. Many times they burrow into a blood vessel and it empties itself into an air passage. If severe, this blood is coughed up and the victim is said to have a "hemorrhage." When the process breaks into an open space (an air-tube, or bronchial tube) an ulcer forms. These become infected with the common pus germs and result in added destruction to the tissues and charge the blood with additional poisons which further weaken the victim and cause his death.

SYMPTOMS OR SIGNS OF THE DISEASE.

All of the signs of the disease depend upon the extent and progress of the process caused by the growth of the germs. In the very earliest stages there will be few or no symptoms to warn even the expert of the presence

of the struggle which may end in invalidism, death, or recovery. Every death or destruction of health from this disease started with just such a tiny point of invasion and infection.

A "deep cold" which does not get well in a few weeks should excite suspicion and calls for a rigid examination by a capable physician.

A persistent cough, especially upon rising, or a "hacking cough" calls for examination.

The cough in consumption is caused by the irritation of the nerve endings deep in the lung tissue and is simply nature's effort to remove this foreign and destructive matter by expulsion through the mouth.

Early in the disease then a cough is particularly significant. The victim begins early to run a slight fever, especially in the afternoons. This is an indication that nature is engaged in a warfare with some infection that is menacing the safety of the individual. Later, this fever is more persistent and runs a higher course especially if ulceration has developed and infection with the common pus germs has taken place. This fever produces the so-called " hectic flush" which is indicated by the rosy—too rosy—cheeks of the patient when the fever is present.

The patient early begins to lose weight, two, five, ten or more pounds in as many weeks. This is ample evidence to show that in the effort of nature to vanquish the invading germs she has called out the reserve forces of the body and is using up more of the body energy than is possible to produce with food.

The appetite becomes fickle and the stomach refuses to relish or digest the ordinary amount of food. The fight at this stage has become serious for, without proper nourishment to furnish energy to the resistive forces in the white and red blood corpuscles, the reserve energy stored away in the fats of the body will soon become exhausted and the patient reduced to invalidism at an early period.

There may or may not be a "hemorrhage" depending upon whether or not the tubercular process has burrowed into a blood-vessel of sufficient size to produce it.

There are all signs that may be noted by the patient and are danger signals to the well-informed individual.

In addition to these signs, the expert or well qualified physician can detect many other signs of the disease, called physical signs. Hence, one should be consulted early to detect the presence of tuberculosis.

With the patient's chest exposed, by careful measurements he may determine a difference in the amount of expansion due to a filling up or solidifying of the lung tissue. By placing an ear or instrument to the chest

will certain peculiarities of sound or transfer of sound of the patient's voice may help him to determine whether or not the destructive process is extensive, has burrowed into the air passages, or exists at all. By "sounding" with a finger or an instrument he can tell by the difference in sound whether or not there is more or less of a solid spot of diseased tissue underneath.

By having the temperature of the body recorded from day to day he is able to add to the evidence of disease; likewise, a record of the body weight for several weeks will be of aid.

The final and positive test for the disease is to have a microscopical examination made from time to time of the sputum or "spit" or the matter which is coughed up from the lungs. The early morning expectoration is probably the best to examine.

The physician may do this himself, send it to a private laboratory which usually charges the patient five dollars for the examination, or he can send it free of charge to the Bacteriological Laboratory of the State Board of Health at Bowling Green and secure reports as often as necessary. If the germ or seed is found in the sputum, the verdict is final and the patient is known to be infected. If the report shows no germ, it does not necessarily mean that the patient is free from the disease but several more specimens collected at different times should be sent to the laboratory or until the germ is found. Many times the germ does not find its way to an air passage until late in the disease.

From these facts it can be readily understood that the day of the pulse-feeling, tongue-looking doctor is rapidly passing if these are the only ways he employs to tell what is wrong with the patient. No man has yet been sufficiently endowed by nature at his birth, or later, with sufficient knowledge of the mysteries of the human body, in sickness or in health, to be able to look wise and tell without diligent and painstaking effort what is the matter with the "human machine."

HOW THE DISEASE IS SPREAD.

Koch discovered that consumption is a seed disease in 1882—this discovery is only thirty-two years old. Tuberculosis is probably as old as man and for centuries it has reaped its harvest of millions of victims. All of the population of the world remained in absolute ignorance of the nature or cause of the disease. Hippocrates, centuries ago, wrote from his wonderful experience, "of three things beware, a disease of the female breast, an injury to the knee, and the spitting of pus, (consumption)."

It existed in all countries and it was no

respector of persons high or low. With expectorated matter of the ancient Jews, Egyptians, Chaldeans, Hindoos, and their contemporaries, and the more modern Greeks, Romans, Saxons, and Mongolians with theirs, and the millions of people to-day, countless myriads of the seed of this scourge were sown among the sons of men and are being sown with only a feeble effort here and there to discontinue the involuntary manslaughter of thousands who are killed every day.

Just as weeds have found their way into every cultivated piece of land through long negligence and freedom from attack, so have the tiny living seeds of tuberculosis and like seed diseases been scattered over the face of the earth wherever man is found. The job now of exterminating tuberculosis is like pulling out the weeds in a spring garden and preventing their return, only the field is world-wide and most of the people refuse to believe or do not know that it can be successfully done.

The disease germs are spread in many ways and one has only to remember what is going on in the lung to realize the facts. Here within the lung which has thousands of air tubes all draining into one outlet sewer—the trachea or “windpipe”—are growing the germs of the disease. If it is all advanced and broken through the walls of the air cells or tubes, the nerve endings are pricked and stimulated and wise “old nature” causes the muscles of respiration to take into the lungs an extra supply of air and suddenly to contract with great force causing an outward rush of pent-up air to pass suddenly through the mouth carrying with it the foreign matter (accumulated pus and mucus and germs). This is a cough. It is perfectly clear and if we could lock up the sewer outlet, the mouth and nose none of these disease germs would find their way into the outside world and consumption would disappear in a generation. The same would hold true of diphtheria, pneumonia, bronchitis, follicular tonsillitis, “bad colds,” and whooping cough. The next best thing, therefore, is to destroy the output of this sewer immediately upon its discharge. Unfortunately this knowledge is only thirty-two years old and hardly anybody knows it, a lot of people don’t believe it, and nearly everybody ignores it.

Spitting, coughing, sneezing, talking, drinking, eating, nose-blowing, kissing, are the acts which gather the output of this sewer from diseased lungs and scatter it to beds, bedding, carpets, rugs, walls, floors, handkerchiefs, knives, forks, glasses, drinking cups, spoons, in people’s faces and mouths, the sidewalk, to flies, to fingers, to food, to the dust in the air we breathe, in railway and

street cars, Pullmans, in telephone transmitters, in moving picture shows, churches, court-houses, the living room of one’s family, another’s bed, into the neighbor’s home, into schools, and to the world.

Milk from tubercular cows, especially when the disease occurs in the teats or udder, is responsible for a large number of cases of the disease in children in particular. Every dairy cow, therefore, should be tested for this disease by what is known as the tuberculin test which is correct in more than ninety-five per cent of the tests made. It is harmless to the cow and enables the owner to protect the rest of his herd from infection.

Dogs and cats are often victims of the disease and for this reason, in addition to their possibility of contracting hydrophobia or “rabies,” should not be permitted to associate intimately with children. The habit of kissing and fondling these animals is a filthy one and should be prohibited.

PREVENTION.

1. *Care by the Infected Person.* In the age of discretion the person who suspects the presence of the disease, or before this time, his parents or guardian (including teachers) should by repeated examinations by skilled physicians and microscopical examinations ascertain that the infection is present or absent. If present, certain lines of procedure are absolutely necessary to follow in order that such a person may not become more dangerous to himself and the lives of others, especially his family and intimate friends, than a raving maniac, who would be speedily captured and kept away from society. The ignorant consumptive without a health conscience is permitted by law to kill from one to a hundred of his fellow citizens and poison many times this number by scattering, wherever he may choose to go, the sick and death-dealing seed of his malady. The first and most important thing for a consumptive to learn is this fact and knowing it resolve firmly that no person shall be infected from the discharges of his nose or mouth. This has been well called a “Health Conscience,” when applied to all of the preventable diseases and is the chief hope of sanitarians for the ultimate suppression of such diseases. Into families which always will be infected without it, this class of diseases will continue to come for a long time on account of the ignorance, carelessness, or indifference of others, but with the development of an individual and family health conscience, the spread of such diseases from such individuals or families to others can be limited and stopped within a generation.

The main purpose of tuberculosis sanatoria is to bring the infected individual into a

working knowledge of the prevention of his disease and through him, as an arrested or cured case, to carry such knowledge to his family and community for their protection. This article outlines these procedures.

DISPOSITION OF SPUTUM.

Whether from coughing, sneezing, talking, or any of the respiratory acts, the utmost care must be used to prevent the scattering of sputum en masse or in droplets. All discharges of a quantity large enough to be seen or felt should be expectorated or caught into a spit-cup which can be burned. They can be bought very cheap or can be made from newspapers and carried inside a metal or waxed paper cup with a well-fitting top. A smooth, seamless metal cup in which a paper cup is carried can be easily boiled and cleaned. A heavy-weight waxed paper cup containing the receiving cup is probably safer, for when it becomes unclean it can be burned. These are usually carried in the side coat or apron pocket, and the inside cups are changed and burned three or four times or more a day, depending upon the amount of expectoration. If the fingers are soiled when handling these cups or the handkerchief, they should be washed at once.

It is very important that sputum from the lungs should not be swallowed, for in an appalling number of instances the patient re-infects himself in this way and develops intestinal or other forms of tuberculosis. This point is of vital importance. Many hopeful cases and permanent cures are lost because of the negligence of this rule.

2. *Care of a Patient by Others.*—*The Room.* When the disease has reduced its victim to invalidism or to the point of confinement for curative purposes, he should be placed in a large screened room with hardwood or well-varnished floors with cracks eliminated. Draperies and carpets should not be used. The bed should be out in an open screened porch opening into the living room of the patient.

The windows should be so arranged that plenty of sunlight can be admitted and, in the absence of a sleeping porch, so that a complete change of fresh air can be secured every thirty minutes.

Fresh air in unlimited quantity regardless of low temperature must be furnished. In extremely cold weather the patient can be made comfortable by wearing an esquimaux suit, or having hot water bottles placed in the bed, or the bed can be warmed with steam or hot water pipes where such systems of heating are installed.

The floors should be kept well oiled to prevent the flying of dust. Bed clothing, sheets, pillow cases, etc., should be soaked in a bi-

chloride of mercury solution, 14 grs. to the gallon of water, fumigated in an air-tight closet with formaldehyde gas, or boiled fifteen minutes before being laundered.

In every case the patient alone must sleep in his own bed, use his own bed clothing exclusively. Many cases of tuberculosis are contracted by young people spending the night with their tubercular friends and sleeping in the same bed or room or using the bedding of another tubercular patient. Upon several occasions the writer has seen bed-clothing sold after the death of a consumptive who used them, to innocent and ignorant people who thought they had secured a bargain.

When several in a family are consumptives, this habit of using beds and bedding in common is probably more responsible than any other one factor.

Coverlets and comforts together with the mattresses should be given a day's sunning at least once or twice a week.

The patient must be taught not to cough into his bedclothing but into a clean cloth which is kept in a covered container and burned when soiled. The "spit-cup" is indispensable.

It is a filthy and dangerous habit to spread a paper upon the floor and have the patient spit upon it. Scatter flour upon the flies which greedily devour this deadly and nauseating material and see how quickly they may be found upon the lip of the sleeping baby, its nursing bottle, in your milk or butter, or upon your bread.

All eating and drinking utensils must be boiled at least fifteen minutes immediately after their use by a consumptive, and under no circumstances must the family dipper or public drinking cup be used by him.

COMMUNITY AND STATE PROTECTION.

No claim of sanitary protection is stronger than its weakest links. It is necessary, therefore, when the individual members and families of any community have developed a "Health Conscience" to stop the further spread of preventable diseases occurring in their homes, that some regulations and rules be adopted and enforced which will govern the careless, ignorant, and criminally indifferent. Schools are dangerous disease spreaders because certain members of society refuse to keep diseased children at home. Churches, courthouses, and other public places are open to the same criticism.

Such regulations by any community are absolutely necessary and their enforcement imperative. They are known as health laws and are at present administered by the city, county, and the State Boards of Health. At present they are inadequate and imperfect and but reflect the state of the public mind upon

the problem. As information and the sense of responsibility are spread, health laws and the means of enforcing them will become better.

Any community, city, or county operating under perfect health laws properly enforced is still in danger of becoming infected with tuberculosis and other preventable diseases from surrounding communities and counties. The existence and perfection of a State Board of Health with power of regulation after all the counties is indispensable.

In like manner it is easily seen that, finally, a National Department of Health with ample proportions and support will inevitably be necessary to protect the various states from inter-communicable diseases.

In Kentucky we now have the Kentucky Tuberculosis Commission and the State Board of Health which are given certain powers and duties to protect the health and lives of our people.

Under the powers of the former any community of a county or several counties may erect a modern school for consumptives where the inmates are cured and taught to so care for themselves and others that their disease will not be a danger to their associates. This school is termed a Sanatorium.

THE CURE OF TUBERCULOSIS.

It is not within the scope of this paper to outline any treatment for this should be left in the hands of a competent physician. Any attempt to outline the treatment of fresh air, rest, and nourishing food would probably result in attempts at self medication which is always to be condemned as useless and dangerous.

The taking of patent medicines is a pernicious and dangerous habit, for most of them are concoctions of alcohol, as cheap whiskey, and some opiate which give the patient a sense of comfort and security altogether misleading and harmful. It is necessary to know two things well; it will take a considerable time, many months perhaps, to cure or arrest a case of tuberculosis and it will require a great deal of patience and will power to do as one is told to be cured. Patience, perseverance, and obedience to the orders of a competent physician, however, will save many a victim of this disease.

Cardiovascular Disease.—Treatment. Ideal diet in presence of impaired circulation consists essentially of bread and butter, with some milk to supply fluid, and enough cheese to make up protein requirements; fruits and vegetables to be added in moderate amount.—Bishop.

EXTRA UTERINE PREGNANCY.*

By C. A. FISH, Frankfort.

By this term we mean a gestation which occurs outside the uterine cavity. The condition was first mentioned in the tenth century by Abulcasis, and in 1626 Riolan reported several cases; but until recent years it was considered more as a freak of nature; however, in the light of our present knowledge we know it to be of rather frequent occurrence, and since the first operation performed by Lawson Tait in 1883, it has been snatched from a state of utter hopelessness and placed in that growing list of conditions where surgery has scored its most brilliant results.

The most common form is that of tubal pregnancy and the fecundated ovum may have its nesting either in the median, ampullary or interstitial portions of the tube, occurring most frequently in the order named. And occasionally we have gestation occurring in the ovary itself. We speak of it as primary when the ovum occupies the original seat of implantation; secondary, when by rupture or absorption it occupies a new position. Practically all cases of abdominal pregnancies are secondary as the ovum is soon absorbed and digested by the peritoneum if originally implanted there, though primary abdominal pregnancy has been reported as occurring on the posterior fold of the broad ligament and omentum, but is exceedingly rare.

PATHOLOGY.

It matters not in what portion of the tube the fecundated ovum is implanted, the course is the same. Development at once begins by the ovum burrowing into the wall of the tube in a way analogous to that of normal pregnancy and as the ovum grows it distends the walls of the tube and comes to lie in the tissue beneath, the villi having rapidly dissected their way through the epithelium, causing a weak spot or rent through which the ovum may escape with rupture of the tube; but rupture is really caused more by erosion of the perforating villi and accompanying hemorrhage than by distention." The early stages of placental formation are almost identical with those of uterine pregnancy. Rupture of the tube usually terminates during the second or third months in the median and interstitial types and at the placental site. In tubal rupture the foetus does not always die, the life of the foetus depending largely on the extent of detachment of placenta from its original implantation. When

*Read before the Franklin County Medical Society.

rupture occurs early and the ovum is entirely extruded from the tube the foetus dies and is rapidly absorbed, as shown in operation. However, when the placental attachment is sufficient to maintain life of the foetus, pregnancy proceeds under extra uterine conditions which are fraught with constant danger to both mother and child, it being exceptional though possible for the foetus to reach full term, and if so, we have spurious labor resembling normal labor with cramp-like pains continuing often for hours or even days due to uterine contractions and accompanied with bloody discharges from the uterus; but after a certain length of time the foetal movements cease, indicating death of the child, the abdomen then begins to diminish in size, and if the foetus is not removed by operation it becomes imbedded in the placenta and membranes and may undergo several changes of structure, namely, mummify by absorption of fluids; undergo calcareous change and form a lithopedion; or infection and suppuration may occur, forming a large abscess, which may rupture into the bladder, vagina or rectum; or general sepsis may intervene. The decidua is usually cast off from the uterus soon after the death of the foetus either in whole or in part in a bloody vaginal discharge. This is an important diagnostic sign and is often mistaken for uterine abortion. In a small percentage of cases we may have rupture into that portion of the broad ligament not covered by peritoneum, resulting in broad ligament hematoma, which is the most fortunate termination when nature is unaided.

TUBAL ABORTION.

When the ovum is implanted in the ampullary portion of the tube especially, we may have tubal abortion, its course resembling closely uterine abortion, hemorrhage occurring in the decidua serotina, loosening the ovum from its bed and the foetus escapes among the clots in the lumen of the tube and is either extruded through the fimbriated end of the tube into the peritoneal cavity, where it may be absorbed unless the hemorrhage is so great as to demand interference; or, if extrusion does not take place the ovum is usually destroyed by the hemorrhage and may be converted into a mole. There are no doubt many cases of tubal abortion with spontaneous recoveries which pass under a mistaken diagnosis.

OVARIAN TYPE.

The ovarian type is very rare, only about thirty cases being on record. This pursues about the same course as the tubal, impregnation taking place before the ovum leaves the ovary. Rupture of the sack with hema-

tocele is the usual termination of ovarian abortion.

ETIOLOGY.

The positive cause is unknown, but endosalpingitis, neoplasms, infantile or accessory tubes, pelvic adhesions, diverticula, congenital malformations, (gonorrhoeal and puerperal infections being frequent antecedents,) are the most frequent causes.

SYMPTOMS.

The symptoms are in the main those of early normal pregnancy, such as suppression of the menses, empty enlarged uterus, nausea, a softened cervix, lax vagina, unilateral pain in the lower pelvis, and if the foetus dies early and rupture or abortion does not immediately occur we have more or less uterine flow, containing shreds and clots, which may be mistaken for an uterine abortion. At the time of rupture, the patient will present evidences of shock, anemia, localized pain, rapid pulse, etc.

PROGNOSIS.

The prognosis is followed with varying results, depending largely on the circumstances. Under modern surgical treatment we have a mortality of less than five per cent, but when nature is unaided, the mortality is appalling, being estimated at about sixty-eight per cent.

DIAGNOSIS.

The patient usually gives a history of missing a period or irregular menstrual discharges, together with the early signs of normal pregnancy. On examination we find an empty, enlarged, open uterus with a soft cervix, lax vagina, and often we can palpate a unilateral tumor close to the uterus. If in addition to this, we have had an expulsion of a decidua, the diagnosis is positive. When rupture occurs we have profound shock, anemia, rapid pulse, cyanosis and a stormy onset. The diagnosis is often difficult, though practicable, before rupture. If pain and hemorrhage are not severe we may infer that the lesion is that of tubal abortion, but in many cases, the symptoms are not distinctive and a positive diagnosis is impossible; especially when the child survives after rupture or abortion of the tube. In addition to these tests we may use a microscope to demonstrate whether there are chorionic villi in the uterine discharge. If the foetus should survive and approach full term, the diagnosis may prove to be very difficult before spurious labor occurs. It is easier to diagnose in the broad ligament than in the abdomen. When the diagnosis is uncertain the patient should be placed in a hospital for observation. We should differentiate pyosalpinx, hydrosalpinx, ovarian cysts, appendicitis, renal and gall stone colic. The main points in differential

diagnosis are finding an empty enlarged uterus alongside the tumor, and the stormy onset of the early signs of pregnancy.

TREATMENT.

There is no expectant treatment for this condition. "Whether the rupture is partial or complete, an immediate abdominal section for removal of the explosive body and control of hemorrhage, unless the patient should be in profound shock when we first see her, when it may then be the part of wisdom to postpone operation until reaction takes place. The operation previous to rupture is simple and safe. The treatment of rupture and tubal abortion are practically the same. If, however, the foetus has advanced toward term, the operation becomes much more formidable, and if the diagnosis has not been made before full term and the foetus is still viable, some operators prefer to wait for its death and for thrombosis of the placental vessels." But most surgeons operate immediately after the diagnosis is made. If the pregnancy be intra-ligamentous or tubal, without many adhesions, it is not so difficult and dangerous, as when the placenta and sack are attached to the intestines and adjacent organs; then there is great danger from hemorrhage in separating the placenta and it is often best not to try to remove it until after the circulation has ceased, simply open the sack, remove the child, and sew the placenta to the abdominal wall and securely pack, as the placenta will usually separate and be discharged or can be twisted out and removed through the original incision within a few weeks.

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Neuritis.—Treatment. Place long electrodes consisting of absorbent cotton wrapped in gauze, parallel in pairs along limbs or spinal column. Current to be transmitted through metallic bands of suitable length. Intensity of current 60 to 80 milliamperes for an arm and 100 to 125 for a lower limb. Sitting to last three-quarters to one hour, and be frequently repeated. Method used in nearly 600 cases, with excellent results. Traumatic myelitis benefited.—Hirtz.

Ophthalmia, Gonorrhoeal. Treatment. Stock gonococcic vaccines used in nine cases causing prompt reduction of swelling and protecting deeper corneal and conjunctival tissues from invasion. Initial dose for babies, 50 millions; subsequently 100 millions. For adults, double these doses. Local cleanliness and antiseptics to be simultaneously maintained.—Mittendorf.

VACCINE TREATMENT OF PERTUSSIS.*

By J. ALLEN KIRK, Louisville.

Whooping cough has existed from early times, and as an infectious disease of importance may be classed with diphtheria and scarlet fever. It is probably the cause of more deaths to-day than any other infectious disease. It does not kill directly through the means of a specific poison, as does diphtheria and scarlatina, but on account of its prolonged course, and its many complications is equally effective as a life destroyer.

The bacillus described by Bordet and Gengou in 1906 is at present generally accepted as a probable cause of pertussis, although absolute proof of its etiologic specificity is not yet complete. The bacillus is present in the sputum in enormous numbers, and almost in pure cultures on the first two or three days after the onset of a whoop, and it may be found several days before the spasmodic stage begins. At the end of the first week of this stage, however, other bacteria such as pneumococci, and staphylococci, have usually become so numerous that isolation of the bacillus is impossible. Jochmann and Krause found the influenza bacillus in the sputum of pertussis patients in 100 per cent of the cases they studied. Wollstein states that it may be there before the whoop develops and Davis states that it may be present six months after the attack has ceased. In children who have died during the spasmodic stage of an attack of pertussis, the Bordet-Gengou bacillus has been found in the heart's blood and also in the lungs, where the bacillus influenza is usually present as well.

The bacillus of Bordet and Gengou it appears grows by choice, low in the lung, and rarely above the larynx. During the early stages of the disease it is found abundantly but becomes more scanty as the disease progresses. Under the microscope according to Bordet, the organism appears as a small coccobacillus, in size and shape comparable to the bacillus of influenza. Examined in original cultures it is usually rather longer and plumper but during the progress of sub-cultivation it becomes smaller until it finally appears as a mere point even under the highest microscopical powers. Bordet's bacillus is non-motile, negative to Gram's stain and stains feebly with the usual basic dyes, such as methylene blue but best by weak fuschin.

Pfaundler and Schlossman, in their work on Children's Diseases gives the average duration of pertussis in light of uncomplicated cases as varying between eight and twelve weeks.

Holt gives the average duration of the disease as eight to nine weeks while in the more se-

*Read before the Jefferson County Medical Society.

vere cases, especially during the winter months, it may be prolonged to three or four months.

As to pathology, there is very little characteristic pathologic change in pertussis. There is an inflammation and infiltration of the mucous membrane of the larynx and upper trachea, which is doubtless the seat of the specific infection. As to the treatment up to the discovery of the specific organism, the bacillus pertussis or Bordet-bacillus and the vaccine made from same, we had to depend on drugs, such as antipyrin, quinine, bromides, etc., which we cannot entirely dispense with as yet.

It was during the winter of 1911 Parke, Davis & Co. and Mulford first manufactured the pertussis vaccine and let it out to the medical profession for experimentation. It remained in the experimental state for about a year then it was put on the market. The vaccine then contained twenty million killed bacteria to the c.c. and the initial dosage was one third c.c. or about seven million bacteria to infants and one-half c.c. or about ten million bacteria to older children. Then in four days the infant received two-thirds c.c. or about fourteen million bacteria, older children one c.c. of twenty million. Then in four days infants and older children alike, receive another c.c. or twenty million bacteria.

The vaccine now contains fifty million and one hundred million per c.c. and that is the plain pertussis vaccine. The combined vaccine contains per c.c. bacillus pertussis, fifty million; staphylococcus pyogenes aureus, twenty million; streptococcus pyogenes, ten million; micrococcus catarrhalis, twenty million; bacillus influenza, twenty million.

This combined vaccine is for use in later stages of the disease. In private practice we sometimes are not called until the second or third week as I said earlier in the paper at the end of the first week of the spasmodic stage of the disease, other organisms can be found, such as pneumococcus, staphylococcus and bacillus influenza.

The result expected or that has been obtained from the use of pertussis vaccine is to lessen the number and severity of the paroxysms, lessen the amount of vomiting, render complications less liable to ensue and shorten the duration of the disease. The dosage used now is much larger than when the vaccine first came out. The initial dose now to infants is one-third c.c., or fifteen million killed bacteria, to older children one-half c.c. or twenty-five c.c. which is more than double the initial dose formerly given. It seems that we get better results from the larger dosage.

Sill, in an article in the *American Journal of Diseases of Children*, gives the vaccine ac-

ording to the number and severity of the paroxysms. He gave from twenty million in mild cases to sixty million in severe cases. In one case, a child fourteen months of age, he gave forty million at a dose, every two days for two weeks, the vomiting having stopped the ninth day after treatment was begun.

The writer has had only a very limited experience with the pertussis vaccine. In February and March of 1913, I had fifteen cases in an Italian settlement in Louisville, the ages of the children ranging from six months to fourteen years. I got these children in all stages of the disease but not a one before the first week of the spasmodic stage. I started each of these children with the initial dose of ten million killed bacteria, and in four days gave the second dose of twenty million killed bacteria, and in four days another twenty million killed bacteria, with the exception of two cases which had been whooping for three weeks before I saw them, did I have to give the fourth dose. I had no way of keeping an exact record of these cases, these people being very hard to deal with. They could scarcely tell me whether the children had had lessened paroxysms, or not. All they could tell me was that the children were better, they thought. In each of these cases I gave Calceidin, two and one-half grains every three hours. I had to do this in order to get a chance to use the vaccine, as the parents objected to the use of the hypodermic needle, and they saw no improvement until after the second dose.

In these few cases I feel sure the vaccine lessened the severity of the paroxysms, the vomiting and shortened the duration of the disease by several weeks. There was not a complication and no bad effects from the use of the vaccine in any case.

Freeman of London, uses as a routine treatment for a child five years of age, two hundred and fifty million Bordet bacillus and ten million pneumococci weekly, giving the vaccine daily. Very young children receive fifty million Bordet's bacillus and two million pneumococci. Freeman has observed no unfavorable after effects and feels that on the whole the inoculation gives the children a better chance, and inoculated his own children when they had whooping cough.

Several of my fellow practitioners have used the vaccine, some of them in a great number of cases, others in a limited number like myself. They all speak favorably of the vaccine and advise its use and think that it is the best treatment that we have to-day for pertussis.

CONCLUSIONS.

1. This treatment seems to lessen the se-

verity of the disease, abort complications, and shorten the duration.

2. The sooner the treatment is begun the better the results.

3. I believe this is the best method of treating pertussis we have at hand to-day, although it does not seem to be a specific yet.

4. The method seems to be without harmful after results.

SOME USES OF THE ROENTGEN RAY AS A DIAGNOSTIC AGENT.*

By J. B. MASON, London.

The importance of the Roentgen Ray as a diagnostic agent is well shown by a glance at the programs of the various medical societies, many of which devote an entire session to its consideration as applied to some one of the specialties alone, or by turning through the pages of any of our current medical journals. It has so influenced medical and surgical opinion until it is frequently the deciding factor not only in determining the diagnosis, when or when not to operate, but the prognosis as well.

Progress along this line in the past five years has been very rapid indeed, due to improved apparatus and improved technic. In fact the period from 1895, when Roentgen first made known the result of his discovery, until the present has been one of the most remarkable in the history of medicine. Anatomy, physiology, and pathology take on a new and added interest when studied in the living subject. Other methods of diagnosis are not displaced by the Roentgen Ray, whether they be physical or laboratory, but as a means of checking up and confirming other methods, it is invaluable, often giving information not obtainable in any other way. As an illustration, take the work that is being done in the stomach and intestines. Here we can determine the shape, size, muscle tone, stasis if present, whether or not there be a growth in the lumen of the stomach, and the presence or or absence of a constriction at the pylorus. Some of this information can be gained in no other way. Even a laparotomy will not give size, shape, or emptying time or tone of this organ. This is accomplished without the difficulty of passing a stomach tube to the operator, or the inconvenience of swallowing same to the patient. Those of us who learned to think of the stomach as described in our text books had to materially revise our conception of it.

After a bismuth meal, in the erect position, the lower edge of the stomach is nearly al-

ways seen on a level with the umbilicus. The pylorus a little higher than the lowest point of the stomach. When the bismuth enters the stomach peristaltic waves are seen to begin and move toward the pylorus. This is continued until finally a portion is seen to pass through the pylorus into the duodenum. There are four recognized types of normal stomachs, all occupying a more or less vertical position in the abdomen. A very ingenious method of studying the entire gastro-intestinal tract at one examination has been suggested, that of giving bismuth meal at three different times, one twelve hours before examination, one six hours before, and another at the time of the examination. The Roentgen or the Roentgenoscope showing the position occupied by the three meals. Case has recently in a very suggestive paper, called attention to the exaggerated anti-peristalsis in diagnosis of malignant disease of the intestines. The anti-peristalsis here seen being analagous to that observed in pyloric obstruction. He also calls attention to what is now rather a well-recognized fact, that the colon tube has no advantage over the short rectal tube in giving any sort of enemas, in fact has some disadvantages.

The science of Roentgenology is based on the fact that the structures of the body vary in their density, and in the amount of resistance offered to the passage of the rays. So the degree of contrast which any organ or part shows on a plate depends on its opacity to the rays as compared with its surrounding structures. The bones stand out in marked contrast as compared with the soft parts, and the tendous cast still quite a different shadow. The heart is seen quite plainly as compared with the less dense structure of the lungs, and in the same way, recognition of pulmonary lesions is quite easy, in fact the Roentgen Ray is the most accurate means at our command to diagnose and definitely locate such lesions.

It was in the diagnosis of fractures, dislocations, and other bone lesions that the Roentgen Ray scored its earliest success. In such cases it offers advantages and gives results not obtainable by any other method of diagnosis at our command as well as points the way to successful treatment. It also offers a degree of protection to the physician that becomes often imperative because of the large number of damage suits occurring from time to time, and which, like Banquo's Ghost, stares the physician in the face every time he is called to treat a fracture. It has been the experience of men doing much of this work that most of the sprains occurring in the wrist and ankle joints are instances of fractures. I have seen more than one such occurrence.

*Read before the meeting of the Cumberland Valley Medical Society at Corbin, March 26, 1914.

Some time back I saw a case with Dr. Bryant, a man who had some eight or nine weeks previously been injured in a mine by falling slate. After removing him to his home it was found he could not move one leg. He was seen by a physician who was unable to make out a fracture, and thought the injury was confined to the soft parts. When Dr. Bryant saw the case he was making some attempt to get about on crutches. As there was some swelling still present and as there seemed to be slight shortening, Dr. Bryant suggested he have a Roentgenogram made. This was done and showed a large amount of callus thrown out around a fracture of the upper third of the thigh. He was a very large, muscular man, and while it might have been possible to have made a diagnosis under an anaesthetic, it would even then have been difficult, as there was but little separation of the fragments.

It is in such cases as this that the Roentgen Ray eliminates all doubt, and allows the doctor to go into court if necessary and make positive statements as to his findings.

I had a boy come under my care last year complaining of pain in his heel. The examination revealed nothing except the pain complained of on pressure. The Roentgenogram showed a wide separation of the epiphyses of the os calcis. (No. 1) Another made about two weeks later showed an abundance of callus. (No. 2) and another made about five weeks later, seven weeks after first coming under observation, showed nothing except a little bony prominence at this point.

I believe the injury was due to muscular action, tendo-Achilles, as the injury came on suddenly while jumping.

Dr. Pennington sent me a case recently where a man had been complaining of pain in one heel for some time, and had been unable to bear any weight on it in walking. Nothing was found on examination except localized tenderness. A Roentgenogram showed a large calcareous spur on the under surface of the os calcis.

Other instances could be cited of like nature, but they would hardly be pertinent in a short paper of this sort.

The Roentgen Ray has recently become one of the most valuable assets in diagnosing pregnancy. It will not only show the presence of the foetus, but will determine if multiple or single. Elding, according to Skinner, is able to show trustworthy shadows as early as the last of the second or beginning of the third month. O'Donnell says that position of the foetus can be clearly determined from the fourth month on. Murphy diagnosed anchylolysis of the elbow of a seven and one-half month foetus, which diagnosis was confirmed after birth. A good idea as to the size and

shape of the pelvis can be obtained at the same time.

McLean and Hickney report a very interesting case of a fleshy married woman, weighing about 250 pounds, in whom there had been absence of menstruation for twelve months. Along with the amorrhoea there had been gradual enlargement of the abdomen, which it was decided was uterine. She was examined by a number of physicians who were unable to determine the presence or absence of pregnancy. There had been no nausea or vomiting, no breast signs, neither could the foetal heart sounds be heard. The diagnosis lay between pregnancy and fibromata. Two X-Ray exposures were made, both of which showed the spine, thoracic cage, legs and arms of a well ossified foetus.

The author in reporting this case says: "This case illustrates the ease with which such a diagnosis can be made and shows how the element of uncertainty can be eliminated in many cases in which the thickness of the abdominal walls and the obesity of the patient make the ordinary examination difficult.

APPENDICITIS.*

By J. H. PARKER, CORBIN.

In attempting to write a paper on a subject that has been so often before medical societies, and has been so thoroughly treated by men of large experience, I am not without some apprehension, lest it should fail to be of interest to everybody present. However, the subject is of such great importance that no doubt, the discussion will make up for the deficiency of the paper.

When we go in search for the history of this disease, we will find that only since 1888 this disease has been established on any pathology, and that only since the operative work has been done to relieve this serious condition, so prevalent at the present day. As to the cause there are so many theories advanced by many prominent men of large operative experience, that it is easy to understand how the different theories can be defended. In the first place, it is a disease that attacks suddenly and locally, without any cause, as far as the patient knows. The course may be rapid, or it may be sub-acute. In either case it may be impossible to know what has been the cause. In the beginning of the pathology, it has been thought that small seeds of grapes or tomatoes were causes, but this explanation has been laid aside for many years.

It is rather strange that when we go back to the older text books, such as Gross, we find

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only a few pages devoted to this subject, and it reads as though it were an act of courtesy that he gave it any mention at all. That much is certain; whether this disease was prevalent or not, we have no history of it farther back than 1888, as much as I could find out. Hence we ask, what has been the change in the human condition, that has brought us this new disease? We have always had the same structures, the same opportunities to contract it. And why since 1888 and not before that time?

When I first began to read of appendicitis, or listen to papers on this subject, I used to think that only surgeons, like Deaver, McBurney, and others found cases of it, and when I came upon my first case, I made my diagnosis of appendicitis, and then tried to make something else out of it, till I almost lost my opportunity of saving my patient by operation. I did not expect that I would ever have a case. To-day the more intelligent classes of the laity can make a correct diagnosis of it in many cases. And many people have come to understand that it is a disease that should have an immediate operation.

Appendicitis is more prevalent among young people between the ages of 12 and 35 years, and is found more frequently in the male than in the female. It seems to attack ordinarily the more vigorous persons and with varying degrees of violence. Sometimes we find a man that was suddenly attacked with severe pains and prostration. In a few hours he has pus, and by the time he is on the operating table gangrene has set in on the appendix and surrounding structures. I don't know of any operative condition that runs such a rapid course in so short a time in the severe form.

And what are we to do for the relief of a patient with a disease that gives us such short notice? We find it almost in any locality and, strange to say, it seems to occur more or less in epidemic form. Now, I will not take much of your time with diagnosis. The attacks, as stated above, come on with severe pain, which may be more or less all over the abdomen at first, but gradually become localized in the right iliac fossa. Soon tenderness will develop, and after two or three hours there will occur nausea and vomiting. The rising of temperature usually commences within from 4 to 12 hours, ranging from one half to four or five degrees. Rise of temperature always is present in the acute variety in the early stage. The differential diagnosis in acute attacks involves an exclusion *first*: of cholithiasis, *second*: of acute intestinal fermentation, *Third*: renal calculus and retention, *Fourth*: acute tubal infection, *Fifth*: Rupture of intra abdominal abscess, *Sixth*: gastric and in-

testinal perforation. *Seventh*: Intussusception, and some other conditions, which I will not enumerate. In many of these complications we may have a more or less ranging history, that will cause us to look for the complications of the various characters.

Then we have the recurrent attacks, in which the first attack was not so severe, and is of the type that so many physicians think they can secure in the acute conditions, by diet and rest. In nearly all these cases the patients are nervous, and suffer with indigestion and constipation, and other intestinal troubles. Female patients often get hysterical. They cannot exert themselves without having these nervous reflexes, accompanied by tenderness and gases in the bowels.

The time for operative intervention may be best considered in four periods:

First within the first forty-eight hours.

Second in the actively increasing inflammatory process; from 2 to 5 days.

Third in the subsiding inflammatory process, from fifth day on.

Fourth in the intermediate stage between attacks.

From the previous statements concerning the clinical course and pathological changes it can be seen that the most favorable time for operation is within the first thirty-two hours from the attack, or just as soon as the diagnosis has been made. Errors in diagnosis should be very rare. The dangers in early operation are scarcely more than in exploratory laparotomy. The time of convalescence is short. Drainage as a rule is not indicated, and hernia improbable. The patient would be relieved of his appendix without hazard. Unfortunately, we in the country seldom see the cases of appendicitis in the first twenty-four or thirty-six hours. Our patients have generally reached the second stage when the inflammatory condition has circumscribed the appendix and surrounding structures with circumscribed or general peritonitis, with temperature and pulse high, with intestinal paralysis, acute infection of tissues and manifestations of severe intoxication.

Operation in this stage is only for the relief of tension. Drain with the removal of appendix if it be accessible and easily amputated. There should be the least possible separation of agglutination or other trauma to the infected tissues, as these are life savers, by rendering the local tissues incapable of absorption, and without irrigating or spouging, and without manipulation of the tissues.

On the other hand, in the ascending stage of the disease, when the depression is not noticeable, when the intoxication is not severe, even if quality of pus is large, circumscribed or not circumscribed, the appendix is re-

moved. We should be governed by the constitutional symptoms of sepsis. One fact should never be lost sight of in operating on this class of cases; that the pus is usually virulent, and when organized adhesions are present, they must not be rubbed or torn off, as they carry endothelium and leave abraded absorbing surface. The peritoneum should be considered as skin. While the epithelium is intact, there is practically no absorbing surface. The rule which we follow then is not to treat any of the active inflammatory conditions on the expectant plan, but to relieve the suppurating infected centers by opening and inserting an efficient drain.

After the operation we should place the patient in the Fowler's position, or semi-sitting, administering saline solution per rectum, allow it to seep in continually. No water should be given by the mouth, as the stomach will not absorb it. Mild catharsis should be given in eight hours after operation with small doses of calomel.

The sitting position after operation allows the pus to settle in the most dependent parts of the peritoneum, whence it is pumped out through the tube by the alternating diaphragmatic pressure.

Now I will not say very much about the post-operative treatment, which no doubt very important. This I hope will be fully brought out in discussion.

Ileus, intestinal obstruction following operation for appendicitis may be classified as paralytic ileus, so common after severe abdominal operation of every type. First, muscular paralysis from trauma and exposure. Second, local traumatic peritonitis. Third, local or general septic peritonitis. Fourth, embolism of mesenteric vessels.

Muscular ileus is rarely associated with nausea and vomiting. The tympany is considerable and gas pains occur frequently. There is marked borborygmus, often inability of expelling flatus or feces for days after the operation. The symptoms are the most severe at the end of the second or the beginning of third day, and beyond that period they become alarming. The treatment of this condition of repeated carminative enemas is preferably of alum water (1-2 oz. of dried alum to quart of water). This will sometimes stimulate peristalsis and often give prompt relief. If nausea and vomiting is present, repeated lavage must be practised, bearing in mind that repeated emesis of small quantities does not indicate an empty stomach. Medicinally the best results in adynamic ileus are obtained by hypodermic injections of physostygmium salicylate (1-40 gr.) repeated every two hours. Next in efficiency I consider hypodermic injections of 1-60 gr. of atropine every

three hours until constitutional effects are produced. If this fails to relieve the gas pains, there is a great probability that ileus is due to mechanic obstruction, which may be due to angulation, adhesion or incarceration. The treatment of this condition, if it is not relieved by the above treatment, then it should be presumed that the obstruction is of mechanic origin, and the abdomen must be re-opened and carefully searched for the point of obstruction, meeting the indications on the basis of general principles. There is no more perplexing problem in all surgery than to decide when to reopen the abdomen for post-operative conditions.

Of other post-operative conditions I will not speak of, as they are not so serious and more amenable to treatment.

THE COUNTRY PRACTITIONER AND CUT FEES.*

W. PENNINGTON, BERTHA.

The advance of wages and cost of living within the past twenty years and the increased cost of requirements for entry and extended years in medical colleges would indicate an advance in the practitioner's fees, but this is not true in rural districts in this section of the State, as in some localities the doctor's bills are the only cheap commodity to be found. Most all doctors advertise in some way. A few, by their eccentric so-called professional way of dressing, while others make their strong points by using technical terms to the laity and giving clinical lectures about cases they are now treating or have treated. Some make a display of bright instruments and electrical appliances to impress and awe the public. Others pet the babies and compliment the other members of the family. Some make a point to sport a nice new car, or the best turnout in town, while but a few smile complacently when their name appears in the public press in connection with some professional service. A few don't say a word or make any display, but the members of their family and close friends eulogize their professional abilities and thus make a splendid showing in their hustle for the purpose of influencing the people to get the "best doctor." This has often been done at the cost of the reputation of the fellow practitioner.

Then, we have the fellow who is so busy that he cannot use any advertising schemes and he just tells the people how he has ridden two horses almost to the point of complete exhaustion and that he never gets a full night's rest, which makes him more a subject of pity than envy. We also have the enthu-

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siastic fraternity fellow, who joins all of the lodges in the community and naturally expects professional patronage from all of the brethren.

Some envious members of the profession think they have come in contact with the church doctor, who connects his deaconship with the most popular church in his community to form an alliance with his professional duties; but we think this class is very small.

But, the dangerous advertiser that makes his career a failure and damages the profession is the fee cutter. This disastrous practice may be divided into three classes, namely:

First. The contract practitioner, who possibly does less damage on account of working for a class of people of whom many are unable to pay regular bills.

Second. The one who makes regular bills at the customary price, but when he collects, cuts his bill in half in order to keep in the graces of his patrons, making it appear as a special favor in each instance. He is soon understood and properly labeled.

Third is a fellow who boldly cuts the price and is glad for the entire community to know that he will ride further for a dollar and give more medicine for a quarter than any man in the county. Most of this class start on cut fees as soon as they begin practice and are never able to get out of the rut.

He is a young man with a sheepskin under his arm, decided to locate at a certain place. He takes stock of his outfit, finds he has a hypodermic syringe, a pocket case of instruments, a bi-valve, vaginal speculum, a cross saddle pair of pill bags and one volume each of standard works on branches such as he was required to study, a half worn suit of clothes with some nitric acid stains on his pants and vest, he owes a thousand dollars, the premium on his life insurance is due next month, he needs a horse like a Texas man needs a pistol and when he opens shop and sees the community doctor ride by to see a member of a prominent family nearby, his courage begins to ebb and thinks something must be done, so he decides to cut fees if the opportunity is afforded him, which eventually occurs, resulting in the irreparable damage to the community. He is at war with the doctors and the laity takes up his side in the struggle and as time goes by he accepts his fate and the people use him in trivial sickness, but in anything of a serious nature they call a physician from town for consultation. They do not expect much from the eutrate man. He learns to expect help in all grave cases and becomes negligent in studying that would keep him up in the advances of the profession. What the people think comes true, he is only a fellow between the laity and the real doctor.

The older doctor is restless from the effects of his lost work and makes a vain effort to explain why the people should not accept the services of the fee cutter. But his impudence is rewarded by a loss of prestige and as the breach widens between the two doctors consultation between them is more like a school-house debating society than a professional conference and their patrons are forced to accept one or the other of them and get consultation elsewhere, which causes loss of time and probable larger bills.

If the laity would think seriously they would not want a doctor who does two men's work, or does his work for half pay, as he will do a poor job in the practice of medicine, as well as in other lines of business. The man who is poorly paid for his services fails to meet his financial obligations promptly, and the man who has been dunned by everybody from his banker to the paper boy, is in no state of mind to make an accurate diagnosis and is likely to give calomel and trust to the vitality of the patient to make things right. The man who makes small bills collects poorly, as he has not the time to get after them considering them small affairs and permits them to remain unpaid.

Many of the malpractice suits grow out of enmity existing among doctors, and cut fees—directly and indirectly—cause more enmity than any other grounds.

The physician as a rule is a poor business man and an easy prey for sharks, as they are stung by all from the book agent to the gold mine stock vender, and in many instances, as senility creeps upon the dear doctor, we notice that his spring suit is not quite so nobby as he formerly wore; perhaps his last year's hat has not been discarded, his home has not received its customary coat of paint, his lawn is not nicely kept as in days of yore, his horse looks old and lean, his buggy that once hummed upon the highways now knocks and squeaks in a threatening manner, the sign in front of his office is rusty and the lettering hard to decipher. No longer do we see the wealthy and influential citizens go up his office steps. When he enters the village drug store, that worthy is very busy behind the prescription case and fails to show that former air of recognition and inquiry after his desires. The parson who was often seen about his office and making social calls at his home and occasionally referring to him in order to illustrate some point in his Sunday evening sermon, now spends his time elsewhere and refers to the more favored ones of his flock. This disease is so insidious that the doctor is the last one to diagnose his own case and it is with a bowed head and aching heart that he admits to himself that the grocer does not

want his business and the smithy is most too busy to shoe his horse and he, with the rest of the town or community, knows there is a reason. This condition in a majority of cases can be traced to a lack of professional harmony and cut fees.

TREATMENT.—There is no specific, and in this, as in many other diseases, the prophylactic treatment is very important. In the colleges of medicine seniors should be impressed with the importance of keeping up standard fees. When a new shingle is hung out in any community the older physicians should show the new ones every possible courtesy, speak a good word for them and, when possible, call them into consultation. A man just out of college, who has passed the Kentucky State Board of Health, is as well qualified to practice medicine as the one who has been out ten years and not been a regular attendant at his county medical society and State association. So give him a boost, he will repay you many times, as the young man needs consultation more often than the older one.

The treatment of the well-developed case is to make your county medical society a wide-awake one. Get every physician in the county to be an active member, have a good scientific program and then a social side, have experience meetings and all testify, nabosom yourselves, get better acquainted with your neighbor doctors and their troubles, sympathize with them and like them, and you will have some improvement, if not a cure.

Conflicting Wassermann in Mother and Child.

—The reaction was negative in the mother but positive in the nursing. The child showed no signs of syphilis but did not seem to thrive until after it had been given a course of specific treatment. A number of similar cases from the literature are compared with this to emphasize the importance of the Wassermann test for young children, even those apparently normal. It may reveal those liable to develop serious nervous or other trouble late in life which there was nothing to suggest in childhood, the mother and other children apparently free from any taint of syphilis. Cassoute has encountered three cases in which dementia praecox developed about 20, like a bolt from a clear sky, as there had been nothing in the history of the family to suggest syphilis. hood—on the basis of a positive Wassermann—If proper treatment had been started in child-irreparable injury of the nervous system might have been warded off.

Hemorrhage.—Thermocautery employed with success in two cases of hemophilia to arrest hemorrhage that had proven rebellious to pressure, epinephrin, gelatin, etc.—Hahn.

OUR HONORED VISITORS.*

BY B. J. EDWARDS, CORBIN.

To me has been assigned the pleasing task of bidding you welcome to our little city. On the broad highway stretching from continent to continent across the seemingly boundless ocean, even ships that pass in the night are hailed with joyous welcome. Though their flags bear widely different emblems, though their race and nationality are far apart, and though the glad "Ship Ahoy" is sent across the waters in tongues both strange and foreign, yet the glad thrill of a common humanity is still present in that hail of joy and welcome. But if these ocean greyhounds carry the same protecting aegis of the stars and stripes of Old Glory, are laden with the nationality of our own dear native home, fraught with the same pride in the same national institutions, interests, laws and government, if the glad shout of welcome is given and returned in the well-known accents of the same Anglo-Saxon derivatives, how greatly increased is the joy, how thrilling the pleasure, how intense the ecstatic feeling of common hopes, common interests, common ancestry, and common responsibilities. The Grand Army of the Republic and the Confederate Veterans, heroic remnants of a more than heroic struggle, meet in reunion around the camp-fire as of old and recount the details of days long since past, days of battle, protracted and bloody, days of victory or defeat, days of wounds and hardships in the charnal house of civil strife. Stories of a sickening bloodshed are theirs, where their cannon and other dire implements of human carnage and slaughter, sent tens of thousands of human souls into eternity in the twinkling of an eye. Not such a reunion is ours of to-day. No reminiscences of wholesale bloodshed in the maddening passion of war infuriated soldiery, intrude into our councils and form the purport of our meeting. No fields desecrated by the demons of hellish conflict form the theme of our memories and discussion. No encounters that brought wholesale ruin, the death of our bravest and best and the universal wail of widows and the pitiful cries of orphans, no—verily, none of these things form the joys of our reunions. Instead of destroyers of our race, we represent its physical saviors, mitigants of pain instead of its authors, healers of suffering instead of ruthless, barbarous inflictors of the same. We bear the balsams and balms for human woes, for disease in its ghastly and gruesome forms, for the plagues that stalk about at midnight and the pesti-

*Read at the meeting of the Cumberland Valley Medical Society, Corbin, on March 26, 1914.

lence that walketh at noonday. Therefore, we bid you a threefold welcome; first as intellectual, intelligent examples of our American civilization, representing advance and progress in every noble work; secondly as representatives of what is best and noblest in our social system, and last, but not least, as the Knights of the Golden Circle of the healing of the nations, whose diagnosis, prognosis, clinic and materia medica form one of the richest blessings to our entire planet, alleviating distress, mitigating disease and snatching from the jaws of death our noblest and our best. Here in the foot hills of the old Cumberland mountains a new era has dawned in the science and art of healing. Old things have passed away and behold, all things have become new. The quack and charlatan have had their day in the dark and ignorant past, and are rapidly passing in the sunlight of a new intelligence and enlightenment.

No more does the boastful pretender to the divine art of healing throw his patients into fits, because "he is death on fits," no more does the owl-like practitioner prescribe "Yarb tea" for everything from an ache in the big toe to pulmonary tuberculosis, and no more are simples administered to human kind whose absurdity would put to shame a Comanche pow-wow or medicine man. No, we have wrought an evolution, rational, logical, effective and wonderful. But while we rejoice over this happy revolution of method over madness, still we further rejoice in the prospect of increased knowledge and efficiency and from you, our visitors, we wait in passionate longing for the wisdom born of your broader field of service, your riper and more extensive experience and your more effective, metropolitan, up-to-date treatment of disease.

Therefore, our little city is yours, our hearthstones are at your service and we ourselves are your most obedient servants. Welcome to our banquet, our feast of fat things, welcome to our affection and admiration, and welcome, above all, for what we expect to learn from you in the practice of our noble profession.

Diagnosis of Pulmonary Tuberculosis.—Inman is convinced from experimentation that the anti-hemolytic power of tuberculous serum can be made manifest in a hemolytic experiment by introducing Besredka's antigen into the mixture. He says that repeated positive reactions, especially with a 32-fold serum dilution, in the absence of a positive Wassermann reaction, indicate the presence of an active tuberculous lesion. Repeated negative reactions indicate the absence of an active tuberculous lesion, if cases of under twelve months' duration be excepted.

TUMORS OF THE BREAST.*

By T. C. NICHOLS, MORGAN.

From a practical point of view, tumors of the breast may be divided into inflammatory, adenoid or innocent, and malignant, for simple hypertrophy or excess of growth of the gland can hardly be classed among the tumors. The first point a surgeon has to determine when consulted by a patient who has "something the matter" with her breast, is practically the existence or non-existence of a tumor; is there a new growth developed behind, and in connection with the mammary gland? or, is the disease from which the patient is suffering situated in the substance of the glandular structure itself? This first and most important question ought to be solved before a further step can, with safety be taken; before the formation of a correct diagnosis of the case can be made; and it is quite impossible to magnify its importance. To do this, however, considerable care is necessary, and some manipulative skill must be called into requisition; as a careless examination will surely end in an uncertain diagnosis, and with this, a failure in treatment must necessarily follow. In examining a breast, therefore, with diagnostic intention, the surgeon with the whole gland well in view, should place the palmar surfaces of his fingers over the suspected spot, and, taking the gland in his hand, manipulate it gently and in every joint with his fingers and thumb; when, if an isolated tumor can be found, he will, in all probability, detect its presence; if, however, he is uncertain upon this point, he should make the patient lie down, for if a patient be sitting or standing, and the breast is grasped by the finger and thumb, when induration of the gland itself exists, a sensation is felt as if a tumor were present. If, now, the palmar surface of the fingers be pressed flatly against the chest in the same part, nothing remarkable will be distinguishable. If a tumor or new growth exists, however, it is immediately perceptible. But if a doubt arises in the matter, the patient should recline when under examination, and then—if there be a tumor—it is immediately manifest to the touch, and often to the eye. Having then detected the presence of a tumor, that is, an independent growth. The question arises as to its nature. Is it a simple or a malignant tumor? If the tumor be movable and hard, if quite free, or has but a very uncertain connection with the gland structure, there is a strange probability that the tumor is of a simple nature; and, if it has existed for several months, this probability becomes stronger, for, the cancerous tumor has a tendency even

*Read before the Pendleton County Medical Society.

when primarily developed as a tuber or as an independent structure, to associate itself and becomes connected with the neighboring tissues; and if this has not taken place, the absence of these conditions enhances the probability of the simple nature of the growth under examination. If the patient is also young and healthy, and no other abnormal conditions, either of the breast or neighboring structures are to be detected, the probability becomes a certainty and the presence of an "adenocoele" may be determined on. The adenocoeles are found, as a rule, in the young and unmarried, and in the apparently healthy and robust, although occasionally they occur in the aged, carcinoma of the breast, or cancer. This affection is found either as an infiltration of the gland, wholly or in part, or as an independent tumor or tuber within the meshes of the gland tuberos cancer. It may likewise be met with or associated with cysts—cystic cancer, this being only a variety of the other forms. In the infiltration form the gland appears hard, inelastic, and incompressible; as the disease progresses, it seems to contract and to draw all the parts around together and gradually to infiltrate them. In this way the nipple often becomes drawn in or to one side. At times, after having been drawn in, it becomes infiltrated with the disease, and becomes again prominent; at others, by the contraction of the gland, it may be strangulated, become edematous, and then slough off. The skin is at first dimpled, then puckered, and at last infiltrated. The breast also, from being a movable organ, becomes fixed; so fixed, indeed, that it cannot be separated from the pectoral muscle.

This form of cancer is the more common. The disease may appear in one lobe or in all, and be slow in its progress or rapid, but in every case its progress is much alike; generally, however, this infiltrating form of cancer assumes the character of the tuberos. Tuberos cancer commences as circumscribed independent growth within the gland structure, with a well-defined capsule separating, but not infiltrating the tissues. Sometimes two or more tubers appear together, and these may at last coalesce. This form, unlike the infiltrating, does not contract, but grows in all directions, involving all the parts which it touches, pushing the breasts to one side,—or drawing it to itself. It often attains a large size, giving rise to an irregular, lobulated tumor. It is at times soft in consistence, when it is called medullary cancer; when firm, it is known as fibrous; when jelly-like, gelatine-form; and more rarely it is black or melanotic. As it grows forward, it may involve

the skin, break and ulcerate, giving rise to the appearances formerly called fungus hemalodes; this form being always accompanied with hemorrhage. In both forms, the lymphatic glands in the axilla above the clavicle, or on the side of the neck, will sooner or later become involved. As the glands enlarge, nerve pains down the arm appear, and oedema of the arm commences from the mechanical obstruction to the nervous circulation of the extremity caused by the enlarged glands. At times a serous effusion takes place into the pleural cavity of the effected side sufficient to destroy life. In some rare cases of cancer the disease appears as a brawny infiltration of the breast and integument over it. Some erythematous, redness and oedema being mixed with it at its onset. These cancers are of the worst kind, and speedily destroy life. In other cases mostly chronic, the disease is more cutaneous, and shows itself as a tubercular affection of the skin, which gradually spreads, till at last the part affected seems skin-bound. This condition may be limited or extensive; and occasionally involves the whole of one side. A cancerous tumor of the breast most frequently appears in middle life—that is, when the procreative organs are verging toward their natural period of functional decline, such a period taking place at an earlier date in the single than in the fruitful woman. It attacks married women more frequently than the unmarried, and when infiltrating or involving the breast-gland, is seldom stationary. As the disease progresses unchecked, ulceration of the integument, preceded by a softening down or breaking up of the tumor itself will soon appear, and with this, the characteristic infiltration of the margin of the wound will occur and give rise to indurate, exerted edges. A general cachexia from the pain and wasting discharges will soon show itself, and more or less distinct evidences of the complication of other organs become apparent. Under such circumstances, the end is not far off, for the disease has run its course, and with it the powers of its victim have become undermined, for the victory remains with the strongest. In a general way, a cancer runs its course in two or three years: though sometimes it is most chronic in its action. Cancerous tumors should be removed as soon as the diagnosis of their existence is clear, for accumulated evidence tends to show, that the earlier a cancer is removed the better are the prospects of a complete or lengthened immunity from the disease, and that whether the disease returns soon or late, the best chance is thus afforded to the patient.

TRACHOMA.*

By ROSCOE I. KERR, Belmont.

I am not an authority on trachoma and in this brief paper, I shall only mention a few practical points which I have either learned or verified, in my experience with this disease.

In my work at Highland Hospital I saw quite a number of cases of trachoma, in all of its stages and phases;—mild, medium and severe; acute and chronic; simple and complicated, etc., and my observations have led me to the following conclusions:

1. That the disease affects all ages,—but that the eyes of children are far more susceptible. Of the several hundred children examined in the schools and colleges of Breathitt county, I found about 40 per cent had the disease. Many of these cases were so mild that the people were ignorant of any eye trouble. Some few families were found in which the children were all affected and both parents free. This, however, was not the rule and if either parent was free it was usually the father.

2nd. The disease is unquestionably infectious, the contagion being carried through the secretion. In the mild cases there is very little secretion, but it is usually profuse in the severe cases, especially if complicated and in the acute stage.

3rd. I do not believe any *chronic* case is uncomplicated. The secondary disease often is credited with trouble which the trachoma is really causing and vice versa, but as a rule the differential diagnosis is not hard. Follicular conjunctivitis has been in my experience the most common complication, possibly 10 per cent, showing this disease. It is so frequently seen in conjunction with trachoma that some authorities claim it is one form of this disease. Personally I do not think so.

4th. To differentiate between trachoma and follicular conjunctivitis, I find these points helpful and worthy of remembrance:

(a) I have only seen follicles on the lower lid, while granules seemed to prefer the upper.

(b) Follicles are found on the loose folds, while the granules invariably come in the corners.

(c) Follicular conjunctivitis does not produce an inflamed lid, but trachoma has a congested lid, even in mild cases.

(d) Follicles are as large as pin heads, granules as small as pin points.

(e) Follicular conjunctivitis rarely causes pain or burning, but trachoma invariably does if anything like a severe case.

(f) Trachoma causes an injection of the

ocular conjunctiva, but I have seen no cases where follicular conjunctivitis did.

5th. I find that very often the follicles of follicular conjunctivitis cover the granules of trachoma so completely, that unless all other symptoms are carefully noted, the trachoma will be overlooked.

Let me impress the fact upon you too, that it is important for the general practitioner to be sure of his diagnosis for the following reasons:

There is some difference in the kind of treatment, a great deal of difference in the length of treatment, and a decided difference in your prognosis. I find that treatment which will remove the follicles will only prove powerful irritants to the granules, so that should you tell your patient you will have him well in thirty or forty days, he may at the end of that time and in a worse condition, drift into the hands of a more competent man, or a specialist, and you receive your share of criticism.

6th. I believe that in the mountains of Kentucky hookworm disease and trachoma go, more or less, hand in hand. Not that there is any connection between the two diseases other than the environment, but they seem to play quite an important part in the result of treatment. In other words, it is hard to build up the general physical condition of your patient, which is so nearly essential in order to eradicate the trachoma.

7th. Among the most frequent complications is corneal ulcer and pannus. I recall a case, complicated with pannus, which may be of interest:

REPORT OF CASE.

Patient, a girl, 10 years of age: Slim and anemic. Came to me in January, 1913, complaining of persistent headache. My diagnosis was headache due to eye strain and caused by trachoma. She had been taken out of school some time before on account of headache. I recommended operation, but at that time any eye treatment was declined. After about 2 months the girl was led into the hospital. A pannus had formed over both eyes and she could not see to walk alone. An operation was performed the following day and the usual post-operative treatment carefully carried out and keeping the patient in darkness for 48 hours. At the end of 60 days she returned to school, without even glasses.

8th. It seemed to me that those patients who ate onions, were the most severe cases of trachoma and the hardest to cure. Their eyes were congested at all times and a great deal of lachrymation was common.

9th. And lastly, I would say this: Never dismiss a suspected case unless you have examined the retrotarsal folds.

*Read before the Bullitt County Medical Society.

Never make a negative diagnosis until after you have failed to see the granules from a side view in a good light.

Never fail to look thoroughly into both the inner and outer canthus.

Do not promise your patient he will be well by a certain date, nor that the disease will never return.

Don't fail to encourage the mind and treat the body while you are working on his eyes.

Don't forget and inoculate your own eyes with your hands.

REPORT OF CASE OF BICHLORIDE POISONING WITH RECOVERY.*

By H. G. HERRING, Lexington.

Owing to the wide advertisement that this deadly drug has received through the daily press since the fatal case of poisoning at Atlanta, Ga., we, not infrequently, see in the journals and press reports of attempted suicides with this drug.

The girl having heard or read of the cases so widely advertised decided to try this route rather than by carbolic acid. This girl was an inmate of one of the resorts of the city and having in her possession a bottle of "antiseptic tablets" decided to use it for she could not get carbolic acid so easily.

This shows that notwithstanding the many warnings as to the careless use of the "antiseptic tablets" and severe pain suffered by this method of suicide, this drug still remains a household commodity.

In the *Journal A. M. A.* of March 28, 1914, under Miscellany, p. 1042, the *Journal* quotes M. I. Wilbert in Public Health Reports, Nov. 14, 1914. That there is sufficient legislation at present, which, if enforced would serve as a reasonable safeguard in connection with the sale at retail of this poison. Thirty-eight states include corrosive sublimate specifically in the laws designed to restrict the the sale of poisons, and only Utah exempts corrosive sublimate tablets from registration in the poison register.

The fact that this poison is named in the lists of poison to be registered by druggists when sold at retail in Pennsylvania led the governor of that state to veto a special act prohibiting the sale at retail of mercury bichloride except on a physician's prescription. A greater evil in connection with the sale of this drug as pointed out by Wilbert, is the custom of manufacturers of pharmaceutical preparations in the United States of marketing tablets containing corrosive sublimate under a name usually "antiseptic tablets" without properly indicating the nature of the ma-

terials contained therein. Thus an examination of the current price lists of five of the larger manufacturers of pharmaceutical preparations in the United States revealed the startling information that not one of them properly designated the presence of the deadly poison in "antiseptic tablets." It will be seen that any layman may purchase "antiseptic tablets" not knowing that he is purchasing the deadly corrosive sublimate.

Wilbert further states that the fact that the tablets are given a distinctive shape and color does not serve to protect the purchaser if he is uninstructed as to their contents. Undoubtedly the fact that the tablets are easily obtained under a totally misleading name, together with the agitation concerning them and their popular use, only serves to increase their sale.

The responsibility of the manufactures putting out these tablets with insufficient warnings as to their dangerous character is great and should be met in some way.

The physician should come in for his share of the censure as in numerous cases he prescribes this drug forgetting to warn his patients as to its poisonous contents.

The German Pharmacopea has a preparation of mercuric chlorid which if introduced into the Pharmacopea of the United States would be of good effort in educating the laity as to the poisonous properties of corrosive sublimate.

The German preparations are tablets or pastils and are colored a bright red with an anilin dye, must have a cylindrical shape and be twice as long as thick. They are to be wrapped individually in black paper bearing the German equivalent of the word "poison" in white letters. The weight of the tablets must be stated and they must be dispensed in glass tubes or bottles.

When cases of poisoning occur whether intentional or accidental the newspapers should not publish the details of the kinds of poisons used.

Case. A. M., twenty-five years of age, married and has four children living and well.

Family History: Mother and father living and well. One brother and sister both in good health.

Personal History: Patient was unable to live with her husband for some time because of his cruelty. She came to Lexington a short time ago from the mountains and visited her sister who is an inmate of one of the resorts of the city. She remained here for a short time returning to her home, in the meantime she developed syphilis. Later on she returned here and was given Neosalvarsan along with mixed treatment. At the time she attempted

*Read before the Fayette County Medical Society.

suicide she had developed well-marked secondaries.

According to the girl's story she had become tired of the life she was leading and was going to make way with herself. Her sister related that she had threatened to take her life before, but little attention was paid to her. Monday afternoon she took five "antiseptic tablets" dissolving them in half a glass of water and drank it. Ten minutes later she was found by her sister lying across the bed retching and vomiting. She told her sister what she had done and a physician was called over the phone and was told the circumstances, who advised giving her all the sweet milk that she could drink which was done.

Following this she vomited very freely, complaining of feeling weak with slight pain in stomach. An ambulance was called and patient was hurried to the Good Samaritan Hospital within half an hour after she had taken the poison.

Upon arriving at the hospital she was throwing herself around, frothing at the mouth and vomiting constantly and was very unruly.

A clear history could not be obtained at this time as she would not talk and her sister was too excited, but at glancing at her gold rings they were covered with amalgam as she had put her hands to her mouth in vomiting.

She was put to bed and stomach tube was passed and stomach was thoroughly washed out with a solution of sodium bicarbonate (1 oz. of soda to gallon of water); this was kept up until about 3 gallons of water were used; 1-10 gr. of apomorphine was given hypodermatically with good results. Following this the white of 4 eggs were given alternating with milk and lime water every fifteen minutes (milk and lime water half and half). The first dose of eggs was vomited but all doses following were retained. The eggs were given for about six doses and gradually cut down. Following the above 20 grains of sodium hyposulphite was given every three hours for four doses. A high enema was given followed later by saline by bowel every three hours.

About three hours later I saw her. She complained of having a slight headache, weakness and difficulty in swallowing also feeling numb in arms and legs. In the enemas she passed large amounts of mucous streaked with blood.

In a late issue of one of the medical journals appears editorially an antidote for "bichlorid" poisoning. Sodium phosphate is used with excess of sodium bicarbonate. This solution, it is claimed, instantly converts the bichlorid to the mild chlorid, which can be

removed by a dose of castor oil. It is very necessary that the sodium phosphate should be chemically pure. It further states that the names "sodium phosphate" and "sodium phosphite" are so similar that a serious error can be made by the misprinting or misinterpreting a single letter. Sodium phosphite has been suggested as an antidote to convert mercuric chlorid into calomel (mercurous chlorid) while the phosphite is changed to phosphate. According to the comment sodium phosphate will have no such action on mercuric chlorid because it is already as highly oxidized as possible.

In the further treatment of the case a close watch was kept upon the patient in regard to treatment is begun without delay a larger percentage of these cases can be cured. A daily examination of the urine was made and elimination and if the proper eliminative in twenty-four hours albumin, red and white cells appeared in the urine. The albumin increased until the fourth day then it began to diminish.

There appeared recently in the *A. M. A. Journal* an article by Vogel and Lee of New York upon the "Detection of Mercury in the Excretions." The test was applied in this case and was successful after a second attempt. According to Vogel and Lee this test is a combination of various steps from several older methods and is very satisfactory in identifying the poison and following its elimination in stomach contents, urine and feces.

In dealing with the urine, about 150 c.c. is taken, and in order to break down the organic compound in which the mercury is likely to be present, it is acidulated with 5 c.c. of hydrochloric acid and evaporated over a free flame until its bulk has been reduced to 25 or 30 c.c. About 2 c.c. of hydrochloric acid is added to replace the loss by evaporation, and enough potassium chlorate to oxidize thoroughly the organic material present. This usually requires about 2 gm., and when it has been effected the fluid becomes yellow or colorless. It is then diluted to about 60 c.c. and boiled vigorously until the chlorine gas previously evolved has been driven off, which is shown by the absence of chlorine in the steam.

The solution usually darkens again on cooling. A piece of copper wire (about 18 size) about four c.m. in length, bent back upon itself twice and cleansed by boiling a short time in a test tube with dilute hydrochloric acid, is dropped into the solution and allowed to remain an hour or more. If the mercury is present in considerable amounts it will then be found to be coated with a silvery film of mercury; but this is not sufficient to establish the identity of the metal, and if it exists only

in traces the changes in the appearance of the wire may be inconclusive. The wire is removed from the solution by a glass rod and dried between filter paper, avoid unnecessary handling. The wire is then put in the bottom of a glass test tube and a plug of gold leaf is put in the tube also until it is about 2 c.m. of the wire. Holding the tube horizontally, the end containing the wire is gradually heated by brief successive introductions into the flame of a buesen burner, care being taken to avoid heating the part of the tube containing the gold leaf. The gold leaf must be examined frequently for any change of color. If mercury is present it will manifest itself by the appearance of a silvery patch of amalgam upon the gold leaf. If the mercury is in very small amount there may be only a slight discoloration of the gold seen better by a hand lens or low power of the microscope. In this case the mercury was in such large amount that it was easily seen by the eye. If further confirmation of the mercury is required, the gold foil may be suspended in a tube containing a few crystals of iodine and gently warmed. The mercury is changed to red mercuric iodide.

In testing the stomach contents or feces the same method is employed, but a smaller amount of material is used.

In this case the first trial was unsuccessful and instead of using 150 c.c. the second time 500 c.c. was used and a very large amount of mercury was deposited upon the gold foil.

The patient was feeling fine on the sixth day and went home against advice. She was seen on the thirteenth day and was feeling well and on the twentieth day no trace of albumin was found.

PLEURISY.*

By H. T. MORRIS, Greenup.

Pleurisy is a fibrinous inflammation of the pleura either acute, subacute or chronic in character, occurring either idiopathically or secondarily; characterized by a sharp pain in the side, a dry cough, dyspnoea and fever. It may be limited to a part, or may involve the whole of one or both pleural membranes.

In the majority of cases it is excited by micro-organisms or their products. Pathologically it may be divided into fibrinous, sero-fibrinous, purulent or hemorrhagic. One of these may shift into another or terminate in a chronic form, but in a considerable number of cases the original character of the inflammation persists without change.

No one microorganism is found in acute pleurisy, but the three principal bacteriologic-

al forms are the tuberculous, pneumococci and streptococci.

Acute fibrinous or dry pleurisy, may perhaps occur as a result of cold, but much more commonly it is secondary, especially to lobar pneumonia, less frequently to pulmonary abscess, gangrene, infarctions, rheumatic fever, chronic nephritis or chronic alcoholism; or it may originate by extension from pericarditis, peritonitis, or hepatitis. It is very commonly tuberculous, occurring sometimes as a primary infection, more commonly as a secondary event to a pulmonary tuberculous focus.

Sero-fibrinous pleurisy may be the second stage of a dry pleurisy, but there is often serous exudate from the first. Causes are essentially the same as the preceding.

Purulent pleurisy is a rare sequence of acute sero-fibrinous pleurisy in the adult, but common in children, in whom if the effusion is not purulent at the onset, may rapidly become so. It is common as a secondary lesion in infections, especially scarlet fever, pneumonia, pulmonary tuberculosis or pyemia, and it may occur from measles, pertussis, typhoid fever or a fracture of a rib or a penetrating wound of the chest.

SYMPTOMS.

There are stitch pains in the side, usually in the neighborhood of the nipple or it may be referred to the axilla and when the diaphragmatic pleura is involved to the abdomen or the lower part of the back, increased by movement and especially by inspiration and accompanied by a dry and painful cough. Both cough and respiration are restrained and the patient usually bends toward the affected side in order to minimize the pain. For the same reason the breathing is hurried, shallow, jerking and mainly abdominal in type. Fever is usually present, but in dry pleurisy seldom exceeds 101 and in mild cases may hardly rise above the normal. In sero-fibrinous pleurisy, at the onset, the fever may reach 102 or 103 usually falling in a day or two to 101 or even less and disappearing, always by lysis in from one to three or more weeks. When effusion occurs and the inflamed surfaces are separated the pain lessens or disappears. There is dyspnoea, due at first to the pain, later, unless the effusion has occurred very slowly, to pressure of fluid upon the lung. Latent pleurisy, with slowly formed effusion, may be unattended by dyspnoea except on exertion. In severe cases cyanosis may be manifest. The patient is apt to lie upon the affected side. Cough usually short and dry or with slight expectoration, occasionally blood streaked, is an early symptom. The pulse is frequent and in large effusions, may be abnormal in rhythm and size. The

*Read before the Greenup County Medical Society

urine is diminished in quantity, except during the absorption of the fluid, when it may be increased. The bowels are usually constipated.

The physical signs are important, and vary with the three stages of the disease: the dry stage, the stage of effusion and stage of resorption. The signs of the first stage are those of acute fibrinous pleurisy. In the second stage or stage of effusion, the affected side expands imperfectly, if the effusion is large there is an increase in its size, with obliteration or bulging of the intercostal spaces. You seldom have fluctuation or oedema of the chest walls. The apex beat is displaced to a varying extent, depending upon the quantity of effusion; in right side exudates, it will be displaced toward the left axilla, depending upon the quantity of fluid: in left-side exudates, it may lie behind the sternum and be imperceptible or be carried to the outside of the right mammillary line in the third or fourth interspace. The vocal fremitus is diminished or absent according to the amount of the effusion, although it may persist with large exudates, if there are connecting bands of adhesions between lung and chest wall, the affected side is found upon measurement to exceed the other by 1-2 to 1 1-2 inches especially at the end of expiration.

On percussion, you will find impaired resonance, passing into dullness or absolute flatness as the effusion increases. This is usually found first posteriorly. If the upper limit of the dullness is determined, it is found to be at a higher level posteriorly than in front. A movable line of dullness obtained by marking in the mammillary line, can not be demonstrated in very large or encysted effusions. The dullness or flatness of the fluid has a peculiar resistant quality readily recognized by practice.

AUSCULTATION.

Commonly the breath sounds over the fluid are weak or absent, but in large effusions there may be distinct, but distant bronchial breathing. The vocal resonance is usually annulled over the body of the effusion, but there may be bronchophony. If the portion of the pleura, which overlies the heart is inflamed there may be a pleuro-pericardial friction sound.

DIAGNOSIS.

In the majority of cases there is little difficulty in making a correct diagnosis from the symptoms, particularly the physical signs. In pneumonia you may sometimes be uncertain. A pneumococcus pleurisy at the time of onset may closely simulate a lobar pneumonia. In the latter disease there is an initial rigor or chill, the fever is higher, the prostration more decided, the dyspnoea of greater in-

tensity and there is rusty sputum. The unilateral flush on the cheek is not seen, as a rule, in pleurisy. In pneumonia the dulness is less resistant, the vocal fremitus and vocal resonance are increased, not diminished, or absent; there is no displacement of the heart, spleen or liver and intercostal spaces do not bulge. In doubtful cases the exploratory puncture is decisive, and should always be employed.

HYDROTHORAX.

The absence of fever, pain and friction sounds, together with the history of disease of the heart or kidney in hydrothorax, usually enables a ready differentiation.

Pericardial effusion, if extremely copious, may closely simulate a left side pleural effusion. In pericardial effusion there is pulmonary resonance at the base, a dull tympanitic resonance in the axilla and around the border of the distended sack, and the heart is not displaced to the right. Moreover, the dyspnoea is extreme in comparison with the apparent amount of effusion, the pulse is small and irregular, and there is often a history of antecedent rheumatic fever.

Hepatic abscess, when of sufficient size and suitably located, may push the diaphragm high up and cause dullness and weak or absent respiration at the right base. The upper line of dullness, however, in such cases is immovable and often curved upward, and a friction sound is audible over the dull area, which would not be the case if the pleural surfaces were separated by fluid.

TREATMENT.

Locally blisters have served me well, it seems to suspend the process, as well also as to relieve the pain to some extent. Succeeding the blister, a cotton jacket should be applied, for a time at least. The severe pain is promptly relieved by the hypodermic injection of morphine sulphas, or the frequent use of small doses of Dover's powder.

In the very early stages of pleurisy, it may be cut short by sodium salicylate gr. x-xv, well diluted, every three or four hours. In the stage of effusion, the salicylates are important. For the absorption of the fluid, use potassii iodidum gr. x, well diluted, every four hours, with flying blisters over the affected side, or mercurial ointment in the armpits, groins and over the site of the effusion. If there is much delay, however, in the absorption of the fluid, paracentesis should be practiced as soon as the fever has subsided. This is an operation every physician should be able and ready to do without calling on the surgeon. The point, which I prefer, is the seventh interspace in the mid-axillary line. The interspaces are made wider and the operation easier, if the arm of the side to be oper-

ated is carried over the head. The needle should be introduced close to the upper margin of the rib, so as to avoid wounding the intercostal artery. In severe dyspnoea do a paracentesis at once.

Empyema should be left to the surgeon.

DIAGNOSIS OF PREGNANCY.*

By A. E. THRELKELD, Wheatley.

There are circumstances in the practice of medicine when the probability of the existence of pregnancy suffers; and then again we are brought face to face with conditions, when nothing short of an absolute diagnosis is permissible; when a mistake would be disastrous to our own welfare as well as to that of our patient. Under such circumstances with our signs as known we would hardly be justified in making a positive diagnosis during the early months of pregnancy. The most skillful diagnostician can hardly obtain positive proofs during the first sixteen weeks.

Signs of pregnancy have been divided into presumptive, probable and positive. Probably the most useful and practical method is to divide them into doubtful and positive signs.

To my mind there are only three positive signs.

1. The foetal heart sound.
2. Quickening, or active motions of the child.
3. Ballotement, or passive locomotion of child. Four others though not so valuable are usually classed with the positive signs.
4. Recognition by abdominal palpation.
5. The uterine murmur.
6. Intermittent contractions of uterus.
7. Hegar's sign.

The doubtful signs of pregnancy are difficult to enumerate numerically, but for convenience of recollection we may enumerate five that are easy of recognition, and five that are less so. In the first group we have:

1. Suppression of menses.
2. Changes in the breasts and nipples.
3. Morning sickness.
4. Morbid longing and dyspepsia.
5. Changes in size and shape of abdomen.

In the second group:

6. Softening and enlargement of os and cervix uteri.
7. Violet color of vagina.
8. Irritability of bladder.
9. Pigmentary deposits in the skin.
10. Mental and emotional phenomena.

The elaboration of all these signs is beyond the scope of this paper, besides a full descrip-

tion of same may be found in any text book on obstetrics.

Probably a few points on differential diagnosis may not be amiss.

From ovarian tumors. The positive signs of pregnancy are absent; menstruation generally continuous; there is fluctuation; tumor begins on one side of abdomen and is of slow development; womb not enlarged and cervix not softened.

From uterine fibroids. In this case the tumor is harder and more inelastic; it is unsymmetrical and nodular in outline; of slower growth; is accompanied with profuse menstruation; and cervix is not softened.

From obesity. In enlargement of abdomen from fat other parts of body are enlarged. Belly is soft and doughy to touch and without any central (uterine) tumor.

From ascites. In dropsy there is distinct fluctuation and no uterine tumor, resonance on percussion changes its boundary line upon changing the position of the woman.

Besides the signs above enumerated there are two others that possibly should be enumerated among the positive signs of pregnancy. I refer to the Roentgen Ray and the Abderhalden serum test.

Edling, of Germany, has found it possible to obtain instructive radiographs of the foetus as early as the beginning of the third month of pregnancy. Multiple gestation and abnormal positions can be readily recognized by this means. It is equally reliable in regard to extra uterine pregnancy. No harm from the procedure was ever detected.

In 1912 Abderhalden described a sero-diagnosis of pregnancy. Having found that if foreign protein is injected into the blood, or introduced parenterally, ferments for the destruction of this substance are produced, and a digestion of these substances takes place in the vascular system. He next demonstrated that in the blood of a pregnant animal there circulates a protolytic ferment, which causes a breaking down or change of placental proteins. Furthermore there is in the blood of pregnant women, protolytic ferment or ferments for human placental tissue. By testing blood serum by what is called the Nirihydriin test the presence of these ferments may be demonstrated. This test can now be made in research laboratories.

This test has been confirmed by numerous observers in over 2,000 cases. Most observers obtained positive results in practically all cases. On the other hand less favorable results have been reported by a few. At present the test can not be regarded as an absolute clinical method, until it has been more thoroughly investigated and possible sources of error corrected. However, we must con-

*Read before the Owen County Medical Society.

clude that so far as pregnancy is concerned, we have here a method of diagnosis of wide applicability and practical value. The results show the presence of the ferment from the sixth week after the last menstruation to the third week post partum. Experiments upon animals prove that the reaction may be obtained as early as twenty-four hours after implantation of ovum.

Thus this test is of especial value in enabling us to make a diagnosis before any of the ordinary positive signs are available.

SOME RARE TYPES THAT WE HAVE MET.*

By T. H. GAMBLIN, Monticello.

No trade or profession exists that does not have some few in its ranks that are an exception to the rule.

The medical profession does not escape this classification; there are men within its compass that fall far below the standard of the model doctor. I will say here, it is well, too, before heaping condemnation upon the head of a brother, that we pluck from our own eye the "cinder," if it be there.

Any way, as you go along in the practice of your profession, you are apt to meet (only occasionally however) with a type of doctor that does not come up to the standard of the ideal.

With your permission I will mention a few of them. First, there is the eccentric doctor, one who is crabid and insulting. When a man talks insulting without provocation, is it proper to say, "Oh, he is eccentric, it's just his way?" I think, when I hear him, that he is wrong in the noodle; there is no division line between sanity and insanity. If a man is sane he should be held responsible for his conduct; if insane he should be confined in an asylum.

There is the church doctor. I once heard of a doctor who prearranged for his being called out of church during services in order that he might receive good advertising. Such a procedure should receive condemnation from both God and man.

There is the fool doctor. This term is used for the lack of a better one that would express the meaning. There are some men in all professions who travel on their shape, or good looks, it may be, too, that they have some brains, but they put them to poor use. Their disposition is to "strut," and they really think they are better than their fellows. If this be I, gentlemen, consign me to an eternal oblivion.

There is the crank. They are to be found

in all walks of life, and medicine has not escaped this form of insanity. You will meet with the man who has a sure specific for most every disease. He has thought of it so long and has tried it so often that it is useless to argue with him. It may be in the form of a serum, pill, powder, tar water or lymph, but with him it has worked miraculous cures, although with you it has accomplished nothing, you need not tell him so, you will not change his mind and incur his displeasure; better leave him alone with his hobby and trust to the future to cure him of his folly. Fads are very much like the brook, they will go on forever.

There is the over-polite doctor. Politeness is a virtue. But over-politeness is a bore. I have seen men of refinement render themselves the laughing stock of a company of ladies and gentlemen by their effort to be polite. Dignity is one thing and assumed politeness another. Select the first and ignore the last.

And there is the effeminate doctor. I speak of him without allusion to the female doctor. Too much praise cannot be given to the noble women who have joined the ranks of the medical profession, they purify the temple of medicine; they have shown themselves man's equal in medicine, and we should hail their advent into this, the noblest profession of them all, with great pleasure.

But he, of the effeminate ways, that bears with him odors of the most delicate perfumes, and whose hair is made to curl; who's pomades are fresh from Paris, finger nails manicured each week, and mustache waxed each day, rosy checked and fingers tapering exquisitely. Such a one is proud of himself, and is fit only for the ladies to play with, not to practice medicine.

And there is the smooth doctor. Without trying to explain the term smooth as used here, you will readily understand to whom reference is made. Shakespeare had him in mind when he spoke of the wink of the eye and the nod of the head, for the smooth doctor has both under most excellent control. He is not sincere, but full of flattery as well as treachery. Seemingly a friend. His self-important nod or wink of the eye, offends my appetite, chokes me in the guttrel, and is so offensive to my nostrils that my stomach turns.

Next I will mention the unsuccessful doctor. If you should meet with one I beg you to extend a helping hand. I notice that so long as man is but little known, has made no reputation, he is in nobody's way. But let him begin to climb the ladder of success, and then the shafts of envy, jealousy, malice and hatred will be shot at him in rapid succession.

*Read before the Wayne County Medical Society.

So with the unsuccessful man. It was Josh Billings who said that, "When a man starts down hill, everything seems greased for the occasion." Each one who passes him will give him a kick instead of a lift. You may find such a one in your profession who from misfortune, ill luck or that the fates were against him (and I don't think that you have any farther to go than myself) I beg you give him a lift instead of a kick. Bouquets are softer than bricks. Encourage, beg, entreat, and if needs be go down in your pocket and help him. There is no man but what at some day you may need his assistance, and the man who asks alms to-day, may be able to compensate you to-morrow.

These types I have mentioned, deal with them as your good sense prompts. But beware of becoming infected with any disease germs, for possibly some of these types are of microbic origin.

Whether your path in life has been strewn with flowers, or you have been pricked with thorns; whether successful or unsuccessful, the time will surely come, and perhaps the saddest time in life of man is in the realization of the fact that the hour has come when he must quit, for, according to nature, this time of retirement creeps by degrees upon him. But woe to him to whom it does come, if it finds him unprepared for a rainy day.

Now, if the time to quit is of so much sorrow to man it is of just as much concern to woman, and comes to her at an earlier day. Day by day she has watched the decay of the bloom upon her cheeks, one by one the wrinkles appear, each year brings her some evidence of decay. But I think to grow old gracefully is the most perfect charm.

When I was a child as I played around my old gray-haired grandfather and mother, I thought that they were the prettiest people I ever saw, and hoped to some day look like them. I believe one of the sweetest things left to those in retirement will be contemplation and reflection. Many will be the times that you will live your life over in your musings. In the twilight you will romp and play again. The dear old faces will come to you, the games of your youth, the admonitions of your good old father and the embraces of the sweet-faced mother will make you a child again. The day when you received your diploma, the first case, the first death, the days that you spent with your sweetheart, the engagement, the wedding, the children; all these will be for you pleasant in your dreams and memory. The good companion of your busy life may be with you, the one who has helped you to bear your burdens, helped you in gaining a living if your lot was a hard one, hers was harder, if you suffered, she suffered more; when you

were happy, she was happy; when you were full of grief, she wept. Think, man, when recounting your great deeds, the part she bore. She has been the power behind the throne. After the weary life is over, after the day has passed; after the folding of the hands, after all adieus, after the dark river is reached, you will pass over to the other side to bask in the green grass by the still water. Then your soul will rest in peace for God is just.

HOOKWORM ARTHRITIS.*

(REPORT OF CASE.)

By B. F. VAN METER, Lexington.

While on a hunting trip in Pulaski County three years ago, I was asked to see a boy, E. A., white, age 7. Having been under a diagnosis of tubercular arthritis of both ankles, and unable to walk for two years. At the time of my seeing him three years ago with his family physician, I was sure that the diagnosis was not that of tuberculosis.

The boy was very thin and emaciated, both ankle joints swollen, and tender, limitation of motion in all directions, flexion and extension being more free, than other motions. No oedema of the legs, in fact nothing except emaciation, anemia and an arthritis of both ankles. I was unable to make a diagnosis, though I was sure that he did not have tubercular arthritis.

After being asked to look at a skin eruption on a younger brother, who was not sick, I advised his family physician to put him on mercury and iodid. Under the treatment of mercury and iodid he was able to go out and walk to the extent of chopping cornstalks on the farm the following summer, but later in the fall his ankle joints became more acutely involved, more swollen than ever before, his having stopped the mercury, with both knees water joints, though not very painful or acute, just fluxuating water joints, but no oedema of the shins, or anywhere else.

Two years after seeing him first I was back in Pulaski hunting birds this last November, and saw the patient the second time, and was still unable to make a diagnosis. My hunting companion, Mr. W. E. Simms offered the boy financial help and he was brought to the Lexington Hospital for observation.

After a very short time I arrived at the conclusion that his joints were being fed by an infection from his intestinal tract, this led to an examination of his stools by Dr. Ernest Bradley, when hookworms and round worms were both found. He was given a routine

*Read before the Fayette County Medical Society.

treatment for hookworm, his ankle joints being so much damaged that they were put up in plaster of Paris slightly inverted, and kept for six or eight weeks, later examination of intestinal contents were found negative.

At the end of eight weeks this boy now ten years old, had gained about twenty pounds, entirely free from pain, and was discharged wearing a double bar brace with free joint at the ankle, in order to protect his very much damaged angle joints.

There are two points in the case that have special interest, first: that there is such a thing as a clear cut hookworm arthritis; second: that the hookworm arthritis will show improvement under vigorous administration of mercury. As long as he took his mercury regularly he showed improvements, as soon as he stopped he relapsed, although the mercury did not have the effect, that it would have had, if the infection had been specific.

This case here reported can't be the only case of hookworm arthritis in the State and I feel it my duty to forward this report, in the hope that through the JOURNAL it might reach some other cases, that were being treated for tuberculousis.

AN UNUSUAL OBSTETRICAL CASE— QUADRUPLETS.*

By J. F. FURNISH, Waterford.

On February the 10th, 1914, at 7:00 o'clock P. M., I was called to the home of Y. D., who lives on Plum Creek, Spencer county, to attend a case of labor. At 8:45 P. M. the mother gave birth to a boy weighing 4 1-2 pounds; on further examination, I found occipital presentation of a second child. Labor continued in a normal way and at 4 A. M. of the 11th, the second child was born, it being a boy also and it weighed 5 1-2 pounds. On further examination I found a third child presenting breech, and labor continued normally and at 5:15 A. M., on February 11th the third child was born; it was a boy, too, and weighed 5 1-2 pounds. On delivering the placenta I found two imperfectly developed children, whose sex I did not determine.

The placenta was pear-shaped, being largest at either end than in the center, and had three cords attached to it. There was an isthmus at center. The children, that were born dead were contained in the membranes of the placenta at delivery. No. 2 and No. 3 were perfect twins, their cords coming from the same placental attachment, and both were brunettes, and a perfect likeness of each other, No. 1 was a blond, and was somewhat

smaller than Nos. 2 and 3, both in weight and in feature. At present both mother and children are doing nicely and she is nursing the three children. I am sure such an unusual case will excite interest throughout the State.

NEWS ITEMS AND COMMENTS

TURNUED THE TABLES.

Drs. J. E. Wells and N. W. Moore had an amusing experience with a sneak thief whom they caught in their offices in the Harrison Deposit Bank building late last Wednesday afternoon. The fellow sneaked up the stairs and concealed himself in the drug room, but his reflection on a glass panel in the door gave him away. He refused to come out when ordered, and held the door with his shoulder when Dr. Moore tried to open it. Dr. Wells had a key to another door and entered that way, and the thief was trapped. He said he had come to see a doctor and put up a bold bluff about not being treated respectfully. He started to go down stairs, but was prevented and Policeman Hughes was called. Then the fellow weakened and claimed he was suffering from the effects of appendicitis. Said he had plenty of money and wanted to be examined, and Dr. Moore gave an examination, and, of course, found he was faking. Then the doctor collected a dollar as his fee and Policeman Hughes took the fellow away. He was allowed to go, and left town on the ten o'clock train. The doctors are laughing over how they collected a fee from a fellow who had come up to rob them. It is probable that the man, who was a dirty, disreputable looking fellow, had dropped off the five o'clock train here with the intention of doing a little sneak thief work. It is a common thing in larger cities for thieves to make way with overcoats and clothing from doctors' offices. They slip in, and if detected, claim the yare sick and looking for the doctor.

Grafting Procedure to Prepare Orbit for Artificial Eye.—Magitot refers to cases in which the resection has had to be so extensive that there is no pocket left to hold the artificial eye and no material to which a graft can be sutured to make a pocket. He has been quite successful in such cases with a convex, hollow, silver support, flat at the back, with a hole at the rear into which fits a spring. This almond-shaped support is covered with a Thiersch flap at least 5x6 cm. in size. The edges of the flap are tucked into the opening at the back and are held there by the spring. This skin-coated prosthesis is then slipped into the orbit, where it forms an adequate support for the artificial eye.

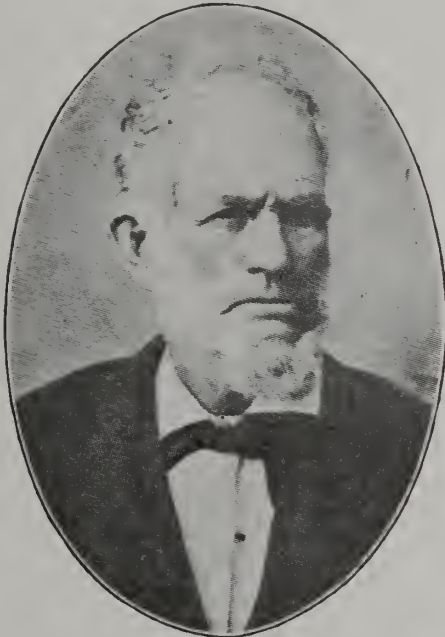
*Read before the Spencer County Medical Society.

THE FORUM

"THEN AND NOW."

On May 12th, 1891, twenty-three years ago, I was elected secretary of the Southwestern Kentucky Medical Association. At that time Dr. Reuben Saunders of Paducah was the retiring President, he having been elected the year before, at the age of eighty-two, without opposition. Dr. Saunders was one of the organizers and the first President of the association in 1866, and as the crowning event of his useful and eventful life, association decided to give him the honor the second time.

The title of Dr. Saunders' President's address was "Then and Now," and as secretary I made it my duty to transcribe the address



DR. REUBEN SAUNDERS
Paducah—1847-1891

on the record book of the association *verbatim et literatim*.

Recently, May 12th, 1914, I was re-elected secretary of the same association in its forty-fourth annual session and in looking over the old record book I re-read with much pleasure the above mentioned address. Considering Dr. Saunders' social and professional standing in the community, the fact that he was at that time eighty-three years of age, and the excellency of the paper, it occurs to me that a short biographical sketch of Dr. Saunders, together with this address might fit well into the JOURNAL and thereby be retained in permanent form.

Dr. Saunders was born near Frankfort in this state, September 6th, 1808, and while yet a boy moved to the state of Alabama and studied medicine, attending one course of lectures in Charleston, S. C. He graduated from the Jefferson Medical College, Philadelphia, in the class of 1836. Returning to Wetumpka, Alabama, he practiced for six years in partnership with the illustrious J. Marion Sims.

He located in the then village of Paducah, in 1847, where he lived the remainder of his useful life and where he died December 14th, 1891. He was a man far above the average in medical intelligence and ranked as one of the foremost practitioners in the western part of the state. Dr. Saunders was the first physician to call attention to and use the combination of atropia and morphia in the treatment of extreme collapse and shock, a treatment that is to-day, and has been for many years, recognized and used by all the intelligent physicians in the world. This treatment he discovered in the epidemic of cholera in the city, county and adjoining counties in 1873.

THE ADDRESS.

Gentlemen of the Association:

As it is customary for your presiding officer in retiring, to deliver an address, I have thought it would not be uninteresting to call your attention to a few of the changes in the character and treatment of some of the most prevalent diseases that I have witnessed since I began the practice of medicine, now more than half a century ago.

Bilious fever, pleurisy, pneumonia, rheumatism, croup and cholera infantum, with an occasional epidemic of scarlet fever, were the most prevalent and fatal of that day.

As the above mentioned diseases of that day, had a decided tendency to inflammation of some important organ, blood letting was resorted to freely. The first thing on being called to a case of bilious fever, was to sit the patient up in a chair, or in bed, cord the arm, draw blood in a full stream until signs of syncope appeared, following this with an emetic if he had not already vomited. After the action of the emetic, a full dose of calomel, twenty grains, or four to six Cook's pills, with some antimonial mixture, such as antimonial wine, spirits nitre, etc. If after the action of these remedies, the patient was not decidedly better the blood letting was repeated, and the mercury continued until the fever abated or signs of salivation appeared.

Blisters were applied if there was persistent, acute pain in any of the important organs, such as the head, liver or stomach. I have seen the head shaved and blistered when inflammation was feared.

Pneumonia was treated by bleeding and

blistering, Dovers' powders and calomel, or the nitrous powder, and some antimonial expectorant. Mercury, however, was not given as freely as in bilious fever. The blood-letting was repeated from day to day, until the pain and difficulty of breathing ceased. I have often repeated the blood letting two or three times a day in the same case, and but seldom if ever had cause to regret it.

Although the pneumonia met with now does not assume that acute inflammatory form that it did then, and to all appearances does not seem to demand blood letting, I have no doubt many cases might be relieved by the loss of blood. The lung being obstructed by effusion, or hepatization, the heart must be embarrassed by not being able to free itself of the accumulation of blood, caused by the obstructed lung, a withdrawal of which would certainly relieve it, without prejudicing the case.

I have no doubt but more patients laboring under pneumonia, are lost from the free use of quinine, morphia, veratrum, etc., than from loss of blood. Our success was equally as good then as now, under a different treatment, if not better.

Pleurisy, rheumatism and croup were also treated by free blood-letting. Every physician carried his lances—both thumb and spring—also the midwives—and used them freely on all occasions of acute attacks. I will not pretend to say, that damage was not often done, for such is the case with all popular remedies.

Blood letting, says Marshall Hall, is a diagnostic test. Put the patient in the upright position, if the case is one of inflammatory or congestive character of the *scrous or capillary* system, systematic bleeding will be welcome and the patient benefited. If, on the contrary, there is no inflammatory tendency, signs of syncope will occur before enough has been done to prejudice the case. He recommended blood letting in all cases of congestion and inflammation, except the mucous membrane of the bowels. Such cases do not bear it well.

Blood letting was also the remedy in that day for dysmenorrhoea. I have been often sent for, for no other purpose. Tell the doctor I want him to come and bleed me, was often the message.

Typhoid fever, is rarely, if ever seen now as it occurred many years ago—as described by Bartlett and others—namely, constant fever, intense headache, dry, brown tongue, hemorrhage of the nose and bowels, suppression, or inability to discharge urine, involuntary discharges and tympanitis of the bowels, for many days before death, or slow recovery lasting from five to eight weeks.

In my judgment, the so-called typho-ma-

larial fever is nothing more than modified typhoid, anti-malarial remedies make no visible impression upon it. The same treatment as in typhoid—which is merely symptomatic—to combat unpleasant symptoms as they arise, baths to reduce temperature, and nourish the patient until the disease runs its course, is about all we can do. Good nursing is of more service than medicine.

The theory and practice of Cook of the Transylvania School was the prevailing practice then, as most of the doctors, south and west, were his pupils. He taught that all fevers were produced by congestion of the liver, and calomel, or his pills was the remedy. If the patient died, it was because he did not get enough. Occasionally, however, they got too much. Consequently, many cases died of salivation. His theory was easily taught and easy to practice. I fell into the hands of one of his disciples once myself, and did not get over the sore month for several months.

Now gentlemen what has caused this gradual change or modification of the disease I have mentioned? The improving in the farming and mechanical implements, the invention of the mower and reaper, improvements in plows and other farming utensils, has relieved the male population of much physical toil. The banishment of the spinning wheel and hand loom has relieved our females of constant physical toil from morning till night, the year 'round. The establishment of common schools throughout the country is gradually developing the brain and nervous system.

These are some of the causes which are gradually producing a change in the character of the diseases of the country, from circulatory or inflammatory to the nervous system. Instead of constant toil at the spinning wheel and loom, our girls are now typewriters in banks or lawyers' offices, clerks in our stores or teachers in our schools.

Consequently, the nervous system has, and will continue to become, more developed and more prominent in the diseases of the country. As the nervous becomes more developed by education and heredity, these violent inflammatory diseases, spoken of as occurring in my early practice, may never occur again. The text books now in use, may, in the course of another generation be as valueless as those of forty and fifty years ago, are now.

The diseases I have mentioned are rarely seen now as then. I have seen but one or two violent or decided cases of bilious fever since 1850 and no case of shaking ague. Acute rheumatism is of rare occurrence. Membranous croup is less frequent and scarlet fever has also assumed a modified form. Very few deaths occur from it now.

It is not surprising, therefore, to the medical profession, that these and numerous other changes in habits and customs should superinduce a radical change in the manifestations of disease. Change is everywhere, and incessant.

There is no such thing in nature as entire absence of change in the inorganic or organic world. Molecular change is unceasing; change is life. The absence of change is death.

For the discovery of this great and momentous truth—change constantly taking place, in all organic life—the world is indebted, in a large degree, to the medical profession.

From the earliest period of scientific discovery, to the present day, those who have been first and foremost in searching out, and utilizing, for the benefit of mankind, the secrets and mysteries of nature's acute changes, have been the patient, enquiring physician. Yes, he has not only been the leader in the higher sciences and curative art, but he has been the leader in mechanical discovery, for there is hardly an instrument in the world, valuable in the investigation of science and disease, that has not been invented by some scientific physician or surgeon, laboring to solve some abstruse problem of nature's manifestations.

And when he adds to the constantly changing conditions, the intellectual change of progressive education, the changed food, habits and customs of advancing civilization, and the condition of local environments, he can hardly fail, not only to recognize the fact that all forces acting in the living body, are identical with those living in the inorganic universe, but by the laws of cause and effect, disease must change and it is his highest aim to understand those changes."

Value of Mask over Surgeon's Mouth.—In order to demonstrate the value of a mask over the surgeon's mouth during operations Candler carried out the following experiments with *Bacillus prodigiosus*: With ordinary breathing and quiet speaking no bacilli left the mouth. Coughing for two minutes caused only a few bacilli to be emitted, and there were controlled by a mask of eight layers of gauze, one of four layers being insufficient. Sneezing was shown to be a most dangerous source of infection from the mouth, one sneeze, and that an artificial one, producing 130 colonies of microorganisms in a circle of 3 1-2 inches diameter at a distance of 18 inches. A mask of eight layers is not sufficient to keep back all organisms during prolonged sneezing, although it reduces the infection considerably. There was, however, no growth on a plate exposed to one sneeze through such a mask.

COUNTY SOCIETY REPORTS

Christian—The Christian County Medical Society met in regular session in the Avalon, Hopkinsville, Tuesday, May 19th, at 1:30 P. M., with the following members in attendance: Watts, Keith, Laey, Erkilelian, Harned, Rozzell, Caudle, J. F. Stone, Gaither, Gates, Rudd, Paine, Sargent, Williams, Barker, Allen, McGraw, Bell, Rollow, Rice Lovin, Barnes, Stites, Reynolds, Stephens, and Sandbach. Visitors, Drs. Frey and Gower of Trenton and Trigg and Sanders of the W. S. H.

The minutes of the last meeting were read and approved and the society read a letter from the Red Cross Society asking that a committee be appointed to organize a permanent organization in the county. Moved by Dr. Bell and passed that the letter be tabled till the next meeting.

J. G. Gaither moved that a committee be appointed to solicit contributions from the members to equip a room in the new hospital now nearing completion. The motion passed and the Chair appointed J. G. Gaither, S. H. Williams and J. P. Keith.

M. W. Rozzell presented two clinical cases, one of "Facial Neuralgia and Herpes Zoster," and the other of "Granulated Lids."

B. A. Caudle reported a case giving symptoms in detail and asking for a diagnosis.

H. W. Watts and **J. G. Gaither** reported a very interesting case which proved upon operation to be turpentine poison affecting the bladder.

R. W. Frey reported a case of a sigmoid impaction with the radiograph showing a fecal mass with three openings.

J. L. Barker, Sargent, Frey, Stites, Bell, Lovin, Gaither, and **Sandbach** discussed these cases at length.

S. J. Rollow read a very interesting paper reporting three cases of "Sarcoma of the Pelvic Organs," each terminating in death. He laid particular stress upon an accurate and early diagnosis. The paper was freely discussed.

The society adjourned to meet again the third Tuesday in June.

W. S. SANDBACH, Secretary.

McLean—The McLean County Medical Society met at the court house in Calhoun on May 14th, at 2 o'clock P. M. Meeting called to order by J. S. Fitzhugh, President.

Present, W. P. Miller, H. W. Gates, W. L. Haynes, P. D. Moore, W. W. Spicer, R. L. Ford, J. S. Fitzhugh, W. H. Moore.

There being no program for this meeting, a motion was made and carried that the house proceed to the election of officers for the ensuing year.

Motion by W. P. Miller, that the present officers be re-elected, Motion carried: The officers are as follows: J. S. Fitzhugh, President; W. W.

Spicer, Vice President; W. H. Moore, Secretary.

J. S. Fitzhugh made a talk on ethics, which was followed by a general discussion.

There being no other business before the house a motion was made and carried to adjourn.

W. H. MOORE, Secretary.

Carlisle—The Carlisle County Medical Society met in the Baptist Church, at Milburn on June 2nd, 1914, at 11 A. M. After the approval of the minutes of the last meeting, the regular program was taken up.

H. A. Gilliam read a very practical paper on the "Early Diagnosis and Treatment of Tuberculosis." After enumerating the clinical symptoms he entered into a practical discussion of tuberculin as a diagnostic means. Dr. Jackson opened the discussion. At this point, Dr. Purecell, of Paducah and Dr. Kasterson of Lowes, were elected honorary members and invited to take part in the discussions. Dr. Thos. A. Pease, of Kirbyton, was elected a member of the society. Drs. Mosby, Crouch, Marshall, Kasterson, Hoeker, Simpson and Dunn discussed the paper, which was closed by Dr. Gilliam.

The society adjourned to the Hotel for dinner, reconvening at 1 P. M.

C. E. Purcell, of Paducah, gave a valuable and instructive lecture on "Mastoiditis," laying special stress on recognizing mastoid trouble early and incising the drum membrane when found bulging, red and tense. Dr. Mosby opened the discussion, Drs. Crouch, Jackson and Dunn also discussed the paper, Dr. Purecell closing.

R. T. Hoeker, read a good paper on "Gonorrhoea." F. N. Simpson opened the discussion and the paper was discussed by Mosby, Crouch, Marshall and Dunn, Dr. Hoeker closing.

Motion made and carried that we thank Dr. Purecell for being with us and delivering his address.

Motion made and carried that we thank Dr. thanks to the congregation of the Baptist church for the use of the church as a meeting place, also that we thank the Committee on Arrangements for the meeting and entertainment.

The society adjourned to meet on Forked Lake the first Tuesday in September. Drs. Mosby, Marshall and Crouch were appointed a committee on arrangements.

Members present: H. T. Crouch, W. L. Mosby, T. J. Marshall, Bardwell, J. P. Dunn, R. T. Hoeker, and W. Z. Jackson, Arlington; F. N. Simpson and H. A. Gilliam, Milburn; C. E. Purcell, Paducah; Thos. A. Pease, Kirbyton, and Dr. Kasterson of Lowes.

T. J. MARSHALL, Secretary.

Henderson—The Henderson County Medical Society met at the rooms of the Henderson Commercial Club, a very interesting program was presented. The following members being pres-

ent: Drs. Dixon, Fletcher, Floyd, Ligon, Gallo-way, Hancock, Poole, Royster, Neary and Cooper.

— — **Cooper** read a very interesting paper on "Intestinal Indigestion," which was very freely discussed. In closing Dr. Cooper said he hoped for a more rigid examination of our milk supply in the future.

W. A. Poole, the president, being called away, Dr. Royster was called to the chair. After completing all business before the society, it was moved and seconded that we adjourn.

B. J. NEARY, Secretary.

Pendleton—The Pendleton County Medical Society met at the office of Dr. J. Ed Wilson, in Falmouth, on Wednesday, May 13th, 1914, with the following members present: J. N. Blackerby, Beckett, Brown, Blades, Chipman, Clark, Cram, Daugherty, Eckler, Ellis, Hopkins, Kendall, McKenney, Nichols, John E. Wilson, J. Ed Wilson, Woolery, I. A. Shirley, of Winchester, Councilor Tenth District and member of State Board of Health, who is in this county doing hookworm work, was present and contributed to the enjoyment of the day by relating some of his valuable experiences.

We had a fine report of clinical cases, which was entered into with spirit by all the members present, and from the number of cases reported, it made a valuable field of rich experiences and every member felt that it was good to have been here.

W. A. McKENNEY, Secretary.

Shelby—The Shelby County Medical Society held its regular monthly meeting the third Thursday in May, 1914, in Shelbyville with the following members present: Drs. Eggen, Ray, F. M. Beard, S. L. Beard, Lawrence, Adams, J. N. Smith, Sellers, Perrin, Berryman, Allen and Dr. Locke of the State Board of Health.

J. F. Adams read a well prepared paper on "Typhoid Fever," which brought out an unusually interesting discussion on this old but intensely interesting subject.

J. S. Locke's discussion was very interesting as he brought out so many new points on the prophylaxis of this disease.

Dr. Adams' paper well deserved the many compliments paid it by the members present.

At noon the society discussed an elegant three-course luncheon, the contribution of Dr. Sellers. This discussion was very animated and long drawn out, every one keeping steadily at it as long as anything remained in sight to be "discussed".

The society voted to adjourn during the hot months so the next meeting will be held the third Thursday in September.

W. E. ALLEN, Secretary.

KENTUCKY MEDICAL JOURNAL

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ORIGINAL ARTICLES

MILK.

By W. E. GARY, Louisville.

Since milk is one of our best and cheapest foods and is usually taken into the stomach in the raw state it is one of our greatest sources of food-borne diseases although it very often is wrongfully accused. It contains articles of food that render it a good culture media for a great many kinds of bacteria and because of its liquid state it takes up and delivers others to the waiting stomach. For this reason and because milk is not cooked before using it is necessary to throw sanitary safeguards around its production, more so than any other of our food stuffs. The production of milk by the few for the benefit of the many is a business that has been carried on for centuries. Customs and methods of dairying have been handed down from father to son neither of whom knew or ever heard anything until a few years ago about sanitation.

It is impossible to make these people produce a perfect milk in one year or even five years. It is a subject that will have to be taught to the child almost from the cradle up, before we will have a generation of milk producers that will know the scientific reasons for and underlying principles of sanitary dairying. In the meantime it is necessary to use all the means at hand to teach old dogs new tricks, to create an ambition among dairymen to produce a clean milk, to create competition between the dairymen producing the best grades of milk, and to prosecute those that cannot be reached by these methods, and

if fear of prosecutions and advertising of their shortcomings fail to stir them they must be eliminated from the business.

I will outline briefly the work that has been done since the passage of our present milk ordinance five years ago. All the dairies were scored, using the National score-card, by the City Health and State Pure Food authorities, and all scoring below 65 points were given hearings and told what to do to improve their score. Then pint samples of milk were taken, analyzed and graded to show the actual condition of their product. This is a card used with each sample giving name, address, chemical test and sediment grades. This is the standard we have set for grading milk. These cards are filed in alphabetical order and we have the records of dairymen for five years showing the chemical test and three years showing the sediment test. The average sediment grading for 1912 was 72.10; 1913, 85.89, and for the three years 78.95.

The analysis of each sample together with the cotton pad showing the amount of dirt filtered from one pint of milk is sent to the dairyman to let him know the condition of his product. Very dirty or watered milk is destroyed by order of the court. Beginning the first of this year we are making bacterial counts of milk taken from delivery wagons and expect to publish the results monthly.

The problems confronting a town of 20 or 30 thousand people that get their milk from a radius of 5 or 10 miles is quite different from ours coming from 75 to 100 miles. In the small town the milk is produced, transported and delivered by the same person and the entire control of its condition lies in that person's hands. Here one person produces it,

the railroads haul it and another person delivers it to the customer. If there is any fault it is of course the other fellows. High bacterial counts indicate that the milk is either old, has been kept at a high temperature or is contaminated. While high counts do not always indicate that milk is harmful and injurious, for we know that good buttermilk is beneficial and that it contains a large quantity of bacteria, still milk is safer that contains few bacteria for it shows that it has been handled properly and even if contaminated the harmful bacteria have not been permitted to multiply sufficient to create a disturbance.

Thirty-five per cent. of our milk is 36 hours old and thirty-five per cent. 24 hours old when delivered to us. This is usually pasteurized 18 hours before delivery and iced until delivered. The bacterial count of this milk when it reaches here is very high, due to the fact of the long time on the road without refrigeration, which of course can not be obtained except at a prohibitive freight rate on shipping. Under proper pasteurizing methods these counts should be cut below 50,000, and I am pretty certain will be cut that low after we have carried on our present advertising scheme a few months. Our certified milk and milk from about 60 local dairies is only about from 2 to 14 hours old when delivered.

More important than the count, however, is the test for gas forming bacteria using the lactose bile culture media which shows the presence of germs of the coli group and the extent of the contamination. The results of this test will be incorporated in our monthly reports from now on.

In 1910, 1911 and 1912 we caused to be tuberculin tested 22,000 cows. Since then no retests have been required owing to the unsatisfactory conditions existing about paying the veterinarians for testing. There is no paid official head of the veterinarians. The veterinarians are not registered and have no law covering their profession. However, there is a bill to license veterinarians and another to put the enforcement of the tuberculin test under control of the State Live Stock Sanitary Board and to pay the State Veterinarians. If these pass it will be of great good to require a retest of all cattle every two years. Of the 22,000 cows tested less than 4 per cent. reacted and less than 2 per cent were condemned for meat showing that less than 2 per cent. were diseased to any extent. An unexpected result of the tuberculin test was the increase in market value of all tested cattle ranging from \$5 to \$10 per head. Thus you see 22,000 cows tested increased in value not less than \$110,000. The total loss on 440 head at \$60 was \$26,400 partial loss on 440 at \$20 was \$8,-

800 cost of testing at the maximum price of \$1.00 per head \$22,000 making a total cost of \$57,000. Unfortunately, of course, the diseased cattle were not evenly distributed among the dairymen and one some the burden fell heavily. Some lost as high as 95 per cent. of their herd. One case especially shows the necessity of sanitary methods of lighting, ventilating and disinfection very clearly.

An old brick barn without windows was used for stabling 100 head of cattle. They were tested and 58 reactors were removed. The barn was not disinfected and the lighting conditions were not improved. One year later the herd was again tested and 64 reacted, the herd having been increased to 100 after the first test. The post mortem showed that a majority had recent lesions and that the glands of head and throat were chiefly involved. Had this barn been disinfected or been constructed so that the sunlight could shine on the feed troughs where the drippings from the noses and mouths of the cattle accumulate, the story would have been different.

We use in Louisville from 5000 to 7000 gallons of milk a day, according to the season. Other cities of the same size use considerably more. In Milwaukee, for instance, one firm handles over 18,000 gallons a day and supplies about half the town. The value of milk as a food and the cost in proportion to other food stuffs is not generally recognized. One quart of milk is equal in nutritive food value to 10 eggs, 7 potatoes, 8 oranges, 12 apples, 5 bananas, 1 head of cabbage, 11 ounces of meat, 15 ounces of codfish, 5 ounces of corn meal, 6 1-2 ounces of prunes or 4 1-2 ounces of nuts. This shows that milk at 10c a quart is less expensive than any of these except corn meal, potatoes, apples and prunes.

Kind of Food	Cost	No. or Measure	Weight Grams	Weight lbs. oz.	Total Cost
Milk	\$0.09 per qt.	1 qt.	976	2 2	\$0.09
Eggs	0.35 "	doz. 10	566	1 3.9	0.29
Meat 2	0.22 "	lb.	307.7	10.8	0.148
Codfish 3	0.15 "	lb.	428.5	15.1	0.141
Corn Meal	0.03 "	lb.	137.7	4.9	0.009
Potatoes 4	1.00 "	bu. 7	722.7	1 9.4	0.026
Cabbage	0.25 "	lb. 1 head	1875	4 2.2	0.10
Oranges	0.40 "	lb. 8	1304.4	2 14.0	0.226
Apples	0.60 "	pk. 12	1052.6	2 5.1	0.092
Bananas	0.20 "	doz. 5	774	1 11.3	0.10
Prunes	0.15 "	lb.	187.5	6.2	0.061
Nuts	0.60 "	lb.	128.7	4.5	0.163
2. Meat-fat round beef.		4. Potatoes 60 lbs. to bushel.			
3. Codfish-boneless.					

From the reports we are now making it is possible to select a milk supply that is reasonably safe, as safe perhaps as any other food stuff we now have on the market. In infant feeding especially, however, we advise the selection of the certified milk or the milk from a local dairy with a low count, no gas-forming

bacteria and that is delivered before it is 12 hours old.

One thing we do wish to call attention to very distinctly and that is the indiscriminate use of so-called butter milk for drinking purposes. There is practically no buttermilk on the market made by churning ripened cream in the process of making butter, but it is churned sour milk. Now if this churned sour milk is not ripened at the proper temperature for the proper length of time, then cooled and used for drinking purposes very promptly it becomes old, exceedingly acid and very frequently causes serious gastric and intestinal disturbances. It is very probable that contaminated milk ripened at 90 degrees or 95 degrees instead of 68 or 75 degrees allows of the excessive development of germs of the bacilli coli group which give rise to the gastric disturbances in a great many cases. Nearly all of the cases of milk poisoning in the last three years have been from the use of butter milk of this type:

One other point in regard to typhoid fever. Whenever two or more cases are reported as using milk from the same source inspection of the dairy depot, and the dairy are made looking for possible sources of contamination. The water used for washing milk utensils is analyzed and plated for bacteria. If any contamination is found the source is eliminated if possible if not the sale of milk in the city is prohibited. County health officers of counties supplying us with milk report to us cases of typhoid occurring in the families of dairymen all of which are carefully investigated in the same manner.

DISCUSSION.

Cuthbert Thompson: I have listened to Dr. Gary's paper with a great deal of pleasure. The Health Department of the City of Louisville has certainly made a record to be proud of in connection with the milk supply of this city. When they took up this work some five or six years ago our milk supply was one of the worst in the country; now it is probably one of the best.

I am sorry to hear what the doctor had to say about the tuberculin testing of cattle, but this, of course, applies to the market milk supply. Certified herds are tested at least once every year, and this has been done ever since this society appointed its Milk Commission.

I am very much surprised to hear that only two or three per cent. of the 22,000 cows tested by the Health Department were found to be diseased. In other states the percentage has been much larger than this, and even in the certified herds it has been somewhat greater. Of course, a herd that has once been tested and the tuberculous cattle eliminated, is not likely to show more than

two per cent. of reactors upon re-testing, but in new cattle coming into the herd, the proportion of diseased animals is much larger than that—something like fifteen or twenty per cent.

Ben Carlos Frazier: I simply wish to emphasize what Dr. Thompson has said in regard to the good work that has been done by the Health Department in improving the milk supply. When they began this work our milk supply was very bad indeed, and it could be improved upon even yet. The greatest difficulty met with in the work of improving the milk supply is in dealing with the situation out in the country. Almost all of the dealers here have learned how to take care of the milk after they get it; but, as Dr. Gary pointed out, much of the milk has a very high bacterial count when it is received by the dealer, and this can only be avoided by the establishment at various points in the county, of receiving stations equipped with facilities for keeping the milk cold until it can be delivered to the dealer. Very few of the farmers make use of the facilities that they have at hand for cooling the milk, such as putting the cans in well water or ice-water. They drive to the station some ten, fifteen, or twenty miles before train-time and unload the cans on the platform, sometimes with a wet rag around them and sometimes without, sometimes in the shade and sometimes in the sun, and there they stand from ten to forty minutes before the train comes. What is to prevent a high bacterial count.

The tuberculin testing of cattle has been very interesting to me. Dr. Eisenman and others were inclined to believe that from thirty to forty per cent. of the cattle in this state were tuberculous, but when they were tested it was found that this was not true by any means. Even upon the first test there were comparatively few reactors, and since then they have been fewer still. I think it is a great misfortune that these 22,000 cows cannot be re-tested, and it seems to me that something should be done to require the farmers to have them tested. Every now and then there is an outbreak somewhere in the State and a few cows or a herd or two is lost, but I believe there are comparatively few tuberculous cattle in this county because, as Dr. Gary has said, the temperature and weather are such that the cattle can stay out in the open most of the time.

C. H. Harris: Only those who have been more or less familiar with the milk problem in this city can appreciate what the Health Department has done to better the milk supply, and a great deal of credit is due our own Milk Commission, particularly in connection with the feeding of infants. When this work was begun, it was necessary to overcome a great deal of prejudice and surmount many difficulties. Here, for instance, was a widow, with half a dozen cows, who made a living for her family by selling milk, sending a boy to peddle it around from house to

house. Feed just as little as possible and get as much milk as you can, was the motto. In a little dairy in the Western part of the city I have seen a man in wooden shoes, wading around in cow-filth, grasp the cow by the tail and pull her around, and then proceed to milk with the same hand. He could not be made to understand that anything could get into the milk that could not be eliminated by straining it through a piece of muslin. Breaking down these prejudices has been a big job for the Health Department, but we are now beginning to reap the fruit of the great amount of labor they have put into it. Two of my own children have been raised on certified milk, and I want to take this occasion to say, "All hail to the Milk Commission of the Jefferson County Medical Society, which has saved many babies by teaching people how to feed them and giving them good milk to feed them with."

Harry J. Phillips: I do not care to discuss the sweet milk question, but inasmuch as two members of the Health Department and two members of our own Milk Commission are present tonight, I wish to speak of an experience I had with two persons who were poisoned by drinking buttermilk.

About two weeks ago I attended members of five families living in the Western part of the city, who had been poisoned by buttermilk. In each instance the patient was suffering from ptomaine poisoning. In some instances they had eaten bisenits made from the buttermilk, and these patients were not made so sick as were those who drank the buttermilk. Upon investigation I found that all of the buttermilk had come from the same dairyman, who was in the habit of churning every day and making fresh buttermilk. Those of my patients who had taken as much as one glass of the milk after supper were made seriously ill; one who had taken two and one-half glasses was very sick indeed. Although, in those five families, I saw twelve persons suffering from ptomaine poisoning from drinking buttermilk. When complaint was made the next morning to the grocer who had sold the milk, he in turn complained to the dairyman, who said that he had received other complaints and intended to send a sample of the milk to the City Chemist and find out what was the matter with it. The City Chemist analyzed the sample sent him and then called up one of my patients and told her that the trouble lay at her end of the line; that the dairyman in making the buttermilk had to heat it to a certain degree of temperature, after which it spoiled easily, and if the purchaser failed to put it on ice and keep it at a low temperature, it would be unfit for use. This occurred at a time when the weather was very cold, and my patient asked whether it was necessary at that time to keep the buttermilk on ice, and the City Chemist replied that she ought to have ice every day in the year to preserve either buttermilk or sweet milk.

I would like to know if either the members of the Health Department or the members of the Milk Commission who are present can tell me just what was the matter with that buttermilk, and whether it is necessary to keep buttermilk on ice, in cold weather, where, as is true in many cases, the house is not furnace heated, and where, by putting the milk out on the porch or in the kitchen pantry it can be kept at a fairly low temperature?

Leon L. Solomon: I have been very much entertained and instructed by this splendid practical paper, which emphasizes the virtues of our Health Department. Unquestionably it has accomplished much good for the City of Louisville in bringing to it a very much improved milk supply.

Probably the most practical part of the doctor's paper is his comparison of milk with other articles of food as a producer of heat and force units, which makes it plain that in milk we have an almost ideal food for this purpose.

Another most important point that the essayist brought out is in regard to the low grade of buttermilk which is available in this city. For a number of years I have tried to persuade my patients not to use buttermilk, despite the fact that buttermilk carefully prepared from pure milk and kept under proper conditions, is a very healthful article of food. I agree with Dr. Phillips that it is hardly necessary to keep buttermilk in a refrigerator at this season of the year; many people keep it in a pantry or in an outside room, where the temperature is even lower than in the average ice-box. The trouble lies in the character of milk from which the buttermilk is made. I have not seen any severe cases of poisoning such as Dr. Phillips relates, but I have seen a number of cases of gastro-intestinal disturbance resulting from the use of buttermilk, and this has led me to put the buttermilk ordinarily obtainable under the ban.

Probably every practitioner of medicine will bear me out in the statement that in the past few years, so-called summer complaint in children has almost disappeared. I see fewer cases every summer, and I take it that the decrease of this most serious ailment is largely the result of the splendid work of the City Health Department and the Milk Commission operated in conjunction with this society.

E. O. Witherspoon: I have listened to the paper and discussion with a great deal of interest, and I am somewhat surprised at the lack of knowledge on the part of the medical profession in general with respect to the milk situation in Louisville. The improvement of the milk supply has been one of the hardest fights the health officers have even had and it has been kept up continuously for five years. The Milk Commission appointed by this Society has done very excellent

work, but it has only about seven dairies to look after, while the Health Department of the City of Louisville handles between four and five hundred dairies, and I am glad to say that the majority of these have always evidenced a willingness to do what is right. However, in any line of business there are always a few men who will resort to every kind of trickery and subterfuge in an effort to market a product which is not up to the standard, because they can make more money out of it. We have been after this class of men and have succeeded in putting a good many of them out of business.

It is a source of pride to me that the Health Department has also done a great deal of work in the way of improving the conditions under which food supplies other than milk are sold in the City of Louisville. However, I will venture the assertion that there are not more than three men in this room who know that anything along this line has been accomplished. We print the Bulletin of the Health Department every month and send it to every member of the medical profession, and I suppose ninety per cent. of them go into the waste-basket unread. I notice that a good many men, mainly those interested in surgery, who were present in the early part of the meeting, are now missing. This shows the lack of interest in the subject which is one of the most disheartening difficulties with which the Health Department has to contend. When will people wake up and become interested in what they put into their stomachs? We are doing the best we can and expect to continue to do so, but we would like to have the moral support of the medical profession and to know that they are behind us in this work. Unfortunately, we cannot do everything that we know ought to be done, because we are not backed up by the proper laws. The people of Louisville can break up the handling of bad milk in this city in thirty-six hours by ordering from the dairymen who sell milk with a low bacterial count. They used to tell us that they could not do it, but they can. We would certainly be glad to enlist your aid in the work along this line.

Jno. K. Freeman: I want to tell Dr. Gary that the majority of the medical profession are thoroughly in sympathy with the work of the Health Department, but I do not believe we can stamp out, in a few hours or a few days, the practice of selling impure milk to the citizens of Louisville. As the essayist has pointed out, we have not the proper laws. I know of one instance where a man in this town was caught putting distilled water into whiskey, and it was not long before Uncle Sam had him in jail. On the other hand, if the Health Department catches anyone selling adulterated or impure milk, they may, after a long process of law, succeed in having a five or ten dollar fine imposed. Now, why cannot we have as rigid laws governing the sale of milk as we have governing the sale of whiskey? Five

years ago I attended five cases of poisoning from milk—my own children among them. The same dealer that sold this milk kept on selling it, and in the course of the next two months poisoned about seventy-five others. Nothing was done, and seemingly nothing could be done. A sample of the milk was sent to the Experiment Station at Lexington, and their report that it contained pus and filth confirmed my own findings under the microscope.

I heartily agree with the doctor that we ought to have more rigid laws with respect to food products. I do not believe there is a member of the medical profession who would lay a straw in the way of the work the Health Department is doing. I, for one, feel like patting them on the back and saying—"Go ahead!"

W. E. Gary (Closing): I wish to thank the gentlemen for the kind remarks they have made concerning the work of the Health Department. It has only been with the aid of the Jefferson County Milk Commission that we have been able to accomplish as much as we have in improving the milk supply. They have a dairy in nearly every section of the county from which Louisville draws its milk supply, and whenever any dairyman expresses a desire to better his conditions, we simply refer him to the certified dairy in his section. Naturally, he does not want anyone in his neighborhood to produce better milk than he does and it stimulates him to do better.

In regard to the cases mentioned by Dr. Phillips, I am sure that the Health Department did not receive a report of so many people having been made sick from the use of buttermilk. We heard of only two cases, and I believe the trouble there was that the dealer was selling skimmed milk that had been soured at a temperature of 95 degrees. Buttermilk, as we understand it, is what is left over after churning butter. To properly ripen milk for butter it must be kept at a temperature of from 68 to 75 degrees. In skimmed milk ripened at a temperature of 95 degrees, the chances are that bacteria will develop more rapidly than in ordinary buttermilk. It is just as imperative to keep buttermilk cool as it is sweet milk. We have several buttermilks on the market to-day made from skimmed milk pasteurized at a temperature of 180 degrees and then ripened with buttermilk tablets. I should think this would be the safest buttermilk to drink. Nearly all dealers that have pasteurizing plants make it this way, and it is only a question of time until we will be able to educate them all to follow this method. At the present time it is the practice of many dealers to sit the cans of skimmed milk beside the stove and let it sour, and there is no way of telling it from the churned buttermilk. Food authorities who have been working on this problem for a long time have been unable to establish a standard for buttermilk.

In the past two years less than two per cent of

the 700 dealers in this city have been found guilty of watering or skimming milk, but this two per cent. has given us a lot of trouble. The remedy we have in these cases is that if the dealer is found guilty a second time, we can revoke his permit, and during the past year we put four or five out of business for six months.

THE MANAGEMENT OF NEPHROLITHIASIS.

By H. H. GRANT, Louisville.

This subject is far too extensive to entertain presenting in detail on an occasion like this, and my only thought is to go over the predominating points without discussing too many opinions or a variety of treatments.

One of the greatest helps the physician can have with him is to know one good way of dealing with any presenting condition, for though there may be, and often are, several accredited methods of management in many lesions, it is far better to have one definite plan of action than a confusion of many plans. If then we can decide on a good general procedure, acceptable and approved by the knowledge and practice of the present day, we have clarified a situation often confusing. We have long been in the mental habit of regarding the vital organs of the body as the brain, the heart, and the lungs, but though the process is slower, the kidney function is equally indispensable to life. Notwithstanding it is reported that even total suspension of this function has lasted twenty-eight and even thirty days before death, this is the inevitable sequence. In the study of surgery of the kidneys it must be borne in mind that such work is in the class of most difficult and delicate operative attempts, and unless carefully provided for beforehand and skillfully done under the proper conditions will bring disaster rather than good. For not only does any operative step upon this important organ have in view the improvement or restoration of its functions, but if it is functioning at all the existence of compensatory work in the other kidney must be unmistakably determined by some or all of the accredited methods for such calculation, otherwise the only kidney elimination may be stopped.

Suppose to get at the gist of the matter under consideration, we ask four questions:

- First. How do stones form in the kidney?
- Second. What damage do they do?
- Third. How do we know they are there?
- Fourth. What is to be done about it?

Calculi, while more common in men than in women and more frequently encountered in adult and middle life, may form at any age, and indeed calculi have been found in autop-

sy made upon the embryo. *Habits of life* may enter considerably in the predisposing causes but offer little help in settling the question. Much stress is laid by some authorities on the *dict*. It is also a physical fact that stones are more frequent in the more movable *right kidney*. As to the *immediate cause*, the deposit of urinary crystals, perhaps upon a blood clot or a small collection of mucus and pus or some foreign body or more rarely some chance parasite in the pelvis of the kidney or sometimes even in the lobule of the kidney itself *originates the formation*. Stones so started are called *primary* stones when the surrounding structures of the kidney remain intact. After a considerable pathologic change takes place salts due to the fermented and decomposing urine makes *secondary* stones of a different texture, chiefly composed of phosphates, as opposed to the uric acid and urates and oxalates composing the primary stone.

The size and number of these stones varies greatly, as the destructive changes in the kidney favor the formation of secondary calculi, and these new deposits may greatly increase the size of the primary stone by a new coating of a different material.

An *aseptic* inflammation, involving the pelvis and sometimes extending to the interstitial tissue of the kidney is a common result of the irritation due to the presence of the stone and usually is present sometime before infection takes place.

The sources through which *septic* infections of the kidney may arise are chiefly direct and indirect traumatism, and by lymphatic route. Direct ascending infection through the ureter is probably very rare, and where infection ascends from the bladder to the kidney it is probably along the lymphatic chain either in the ureteral walls or the connective tissue about it. It has also been demonstrated experimentally that severe contusions over the region of the kidney externally are often followed by haematogenous infection within the kidney structure. Any of these infections while predisposing to stone formation, and very often complicated by it in one stage or another, are influential though really unimportant points in the diagnosis of stone in the kidney. I say unimportant because as we shall see presently a positive diagnosis must be made by other means before the question is settled.

To favor the formation of stones in the kidney is required the existence of certain conditions of a constitutional character, in other words, a form of toxemia, for we have abundant illustration of the fact that the local causes may very often exist without there being any stone formed. Experimentation as well as actual pathologic conditions which one

would suppose would result in the crystallization of the organic salts are often unattended with any results whatever, or if any stone begins to form it soon undergoes a spontaneous solution. In the second place the origin of these local causes while not always clearly definable is undoubtedly distinctly mechanical and whether it be a drop of pus from a hematogeneous infection or a more considerable pathologic process from a severe contusion or whether a foreign body accidentally engaged in the urinary tract is the origin, some mechanical irritation from a foreign body is necessarily the primary focus. Wherever these stones are situated primarily they originate in the kidneys and though they may be gradually carried down by the urinary current into the ureters and may be even lifted up and carried back toward the kidneys and their position thus quite frequently altered, they neither primarily form in the ureters nor do they as a rule increase in size after lodging there. The complete obstruction of the ureteral tract by a deposit of this kind occasionally occurs but this is due to the irritation produced by the stone which causes the mucous membrane to swell around it and by this swelling to obstruct the duct rather than by the increase in size of the foreign body itself. It is a matter of common observation that even where the urinary flow is completely cut off by the presence of stone it is often possible to get a probe or catheter beyond the foreign body into the kidney, thus clearly demonstrating that the ureter is not absolutely blocked mechanically but rather occluded by the swollen mucous membrane. It is very probably true that when anuria results from the presence of stone that it is not due always to occlusion from any cause but that partly through nervous influences and partly through the high congestion of the structure of the kidney itself the function of the kidney is temporarily in abeyance and that this nervous influence and congestion may involve not only the kidney upon the side containing the stone but even the other kidney by sympathy may cease to functionate.

With regard to the formation of stone as a matter of fact we determine that they originate in the kidney because something interferes with a normal flow of the urine; that the urine itself must be changed from the normal, to precipitate its salts so as to leave them undissolved; that this change in the urine may be referred to dietetic error or some constitutional affection; and that its cause is not often determinable. (This cause is referred to by Squier of New York as "An irreversible colloid"). However, the principal influences are local interference with normal

movement of the urine by the adventitious products that are present, i. e., mucus, foreign bodies, etc., as the real factor.

Second. What damage to they do?

Whatever the origin of primary stones they are probably never harmless, though many instances are reported of stone found post-mortem which had given no symptoms during life and were in no way connected with the cause of death, and moreover many cases of well-established nephro-lithiasis go on for years in fair health or perhaps die of intercurrent affections after a long history of comparatively inconsequential symptoms. Changes due to mechanical irritation without infection may result from primary stone and these changes may cause an atrophy of the kidney or perhaps an interstitial nephritis, ordinarily accompanied by no symptoms of stone. The occurrence of septic infection, however, develops a pyelitis to which easily succeeds the formation of secondary stone, extensive destruction of the kidney until perhaps it leaves nothing but a great pus sac, the infection sometimes even extending to the perinephritic structures. Though, as has already been said, these issues may not necessarily follow, or if they do may be a long time deferred, still this very picture is so convincing of a great and threatening danger that it is not needed to describe what is likely to be the course of such a process. The direct tendency is to riddle the kidney and occasion grave irritation of the bladder and gradually render the patient septic if he escapes acute uremia and death. Often the other kidney from the extra duty thrown upon it becomes hypertrophied and for a time compensates for the damage done its fellow but sooner or later it becomes septic or else inflamed by its own overwork and it, too, fails of its function.

Third. How do we know stones are present?

It is fair to emphasize that the symptomatology of calculi in the kidney though it may be and usually is highly significant, can rarely be conclusive, and in our present facilities for diagnosis the symptoms must always be verified by both the laboratory and the X-ray. Almost every practitioner knows by personal observation the meaning of renal colic—with its sudden development even though preceded by premonitory pains in the loin and back, with the writhing agony continuous though remittant, the temporary suppression of urine, the retracted testicle, the symptoms of shock often attended with nausea and vomiting, he knows how this paroxysm with but trifling remissions may resist large doses of morphia and even demand an anesthetic to control its severity—knows how it may suddenly subside into perfect relief often follow-

ed by a copious flow of urine and perhaps the expulsion of the calculus from the bladder. These attacks more or less typical occur in perhaps thirty per cent. of all cases of kidney stone and where the calculus is not expelled or where other calculi remain these attacks may be repeated, but the absence of their repetition is not conclusive, though if the stone escapes it is presumptive of a cure. These severe colics are highly diagnostic, although other conditions, notably neuralgia of the kidney or nephralgia and even rheumatic lumbago may greatly resemble colic; the pain is perhaps due to the spasmodic effort of the pelvis of the kidney and upper ureter to force the stone out. Now, on the other hand, however, there may be a complete destruction of the kidney without any significant pain and many stones may be carried about for a long time without being suspected. Hence in order to determine if the conditions still exist after these attacks less prominent symptoms are of great importance. First perhaps of these is the presence of blood succeeding these attacks or found at any time in careful examination of the urine. The irritation produced by the stone in the kidney sometimes produces very considerable hemorrhage, but rarely profuse enough to attract serious attention. More frequently the microscope discovers in suspected urine traces of blood not discoverable to the naked eye. A persistent aching in the back and loin frequently regarded as lumbago, especially if attended with tenderness on pressure over the region of the kidney should lead the attendant to have a careful examination of the urine made and here the presence of blood and perhaps kidney derivatives together with pus which it can be determined doesn't come from the bladder, greatly aids in settling the diagnosis. Pus in any considerable quantity is not to be expected unless marked destruction has occurred. Sometimes there are found crystals of uric acid or oxalates indicating the character of the stone. Physical signs of enlargement or tumefaction are not expected in the earlier stages and temperature changes rarely combine to help out the diagnosis. It is a very unusual thing to be able to palpate a kidney of normal size unless it is displaced.

These indications can be often helpfully supplemented by *cystoscopic* examination which may show a healthy bladder thus shifting the pathology higher up—perhaps a swollen, pointing ureter ejecting altered urine. Further explanation is obtained by the ureteral catheter, but other diseases of the kidney, and notably tuberculosis of that organ as well as infections independent of stone, constantly occasion all the symptoms just described. Here the diagnosis must rest until the kidney and

ureter can be skiagraphed. Usually these indications point out positively the affected side. Bi-lateral stone, however, occurs in eight or ten per cent. of all cases, but unless of sudden development with total and persistent anuria, only one side should be dealt with at a time. Temporary deficient urinary secretion is usual during the attacks of colic, though commonly there is a marked vesical irritability. However, total anuria may complicate the attack, but usually after a few hours the secretion is spontaneously resumed. When even a few of these characteristic symptoms present, and tuberculosis of the kidney, floating kidney and traumatism in this region are excluded the diagnosis is completed by a well-executed X-ray negative which will almost always, if properly taken, show a stone if it is present. This exposure should include both kidneys and the region of both ureters. When stone is suspected one negative examination should not be accepted as conclusive if the symptoms persist, unless evident kidney lesion indicates exploratory operation without further confirmation. The exact location of the stone or stones, obtained by this picture, is a great help to the surgeon in determining what part of the kidney to attack and this is an additional reason for careful confirmation of the diagnosis by this method.

Fourth. What is to be done about it?

During the attack of colic the patient is to be quieted by morphine in free doses and often the inhalation of chloroform, if a careful nurse is at hand, may be employed, if the attack is very severe, to interrupt the agony. The duration of the attack may be for several hours, sometimes eight or ten, but usually subsides suddenly, and if during this time repeated large doses of morphine have been given, the patient may be in an overdosed condition when the pain stops. This should be guarded against. If the calculus should be expelled an examination will determine its character and will regulate the dietetic and medicinal treatment. In chronic oxaluria and uric acid diathesis proper medication may allay, and indeed cure, all symptoms. When, however, the symptoms are kept up and have led to the establishing of the diagnosis of a stone in the kidney or where it remains persistent in any portion of the ureter, all surgical teaching demands an operation for its removal even though the symptoms are not troublesome or threatening, and in the presence of severe and threatening symptoms, if for any reason the diagnosis is not confirmed by X-ray the kidney should be explored. It is of course clearly understood that the proper kidney function must be determined by efficiency tests, of which there are several, before

any operation, and the patient should understand in doubtful cases that the extent of the operation cannot be positively defined beforehand. The operation may be simply exploratory, it may be a nephrotomy, a pyelotomy, a nephrectomy, or an operation upon the ureter. The existence of anuria which may be complete though only one ureter is involved, is a necessity for prompt action. Here if the diagnosis has been previously made by X-ray, there should be no delay in reaching and draining the diseased kidney. If it is known that there are stones in both kidneys the one last involved which is presumably the healthiest should be relieved first. If this re-establishes the urinary flow, time is allowed to determine the propriety of operative steps upon the other kidney. Even if the stone is not encountered in this urgent operation, the drainage will usually give relief and save the patient and later proceedings can be made if necessary. Anuria is by no means rare. It is of the greatest importance to accurate diagnosis that both kidneys should be skiagraphed along with the corresponding ureter, even though the symptoms clearly indicate one side as giving the trouble, because it is not an uncommon thing to find the kidney that produced no symptoms also contain stones and operative measures may be followed by dangerous symptoms and even anuria which would not be understood. As before intimated anuria is by no means always caused by obstruction, and the sympathetic irritation felt in the kidney supposed to be uninvolved may stop its function as well. Life is sometimes prolonged in anuria for a surprisingly long period, 20 to 30 days in a few reports, but no delay is to be allowed in draining the kidney after the diagnosis is reasonably certain. The prognosis in operations on the kidney varies with the character. In septic conditions involving the kidney structures the mortality is high after any operation and in actual pyelonephritis with multiple abscess a condition not usually consequent on stones alone, the prospect is dismal. In my own hands the results of all operations upon the kidney have fortunately been most encouraging, but statistics show septic nephrotomies and nephrectomies to give from five to thirty per cent. mortality. We have seen that the tendency to kidney destruction is not only inevitable where stones are present, but often so insidious as to be beyond relief when discovered as such facts determine the propriety of prompt interference after diagnosis.

The character of operation demanded we may briefly outline:

First. In order to confirm the diagnosis aspiration may be employed to show the presence of pus or water.

Second. Pyelonephritis is the operation of choice if the stone can be located in the pelvis of the kidney after exploration.

Third. Nephrotomy should be the primary step where the kidney is found to be in fair condition.

Fourth. Nephrectomy where the kidney is badly damaged, or where nephrotomy is found later to fail to give relief.

Fifth. Where the stone is located in the ureter of one or both sides the operation at one sitting should be complete as indicated, and

Sixth. In anuria prompt removal of the stone upon the affected side and if both sides are affected the best kidney should be operated on first provided the patient can't bear a double operation.

As an illustration of the difficulties of diagnosis I subjoin the following report:

Case 1.—A woman age 30, was brought into the hospital in the middle of the night from a distant town with the diagnosis of acute appendicitis with probable rupture. The patient had been complaining for several days with so much pain and apparent fullness in the right loin, constipation, rapid pulse and a temperature of 101 that she was believed to have peritonitis. After a careful examination, and inspection of some urine passed directly after her arrival the absence of localized tenderness and rigidity, the operation was deferred with a probable diagnosis of suppuration in the right kidney. In three days all of the symptoms had subsided with the exception of pus in the urine, the fever passed away, she made a pretty fair recovery, went back to her home as a school teacher and although no X-ray was made the presence occasionally of pus in the urine notwithstanding fair general health, practically confirms the diagnosis that she has a pyelitis due to stone.

Case 2.—A woman, age 34, married, seen with Dr. Pelle. She was suffering with intestinal obstruction, constipation, vomiting and very severe pain for 36 hours. The pain was referred to the abdomen and right loin and though there had been no response to purgatives or enemas the appearance of the patient did not indicate structural obstruction. Inspection and later examination of the urine showed it contained large quantities of pus and after an enema of milk and molasses given at the infirmary to which she was promptly removed, a free action was obtained. She improved gradually day by day, the temperature subsided, the pus still remained in the urine and six days afterwards when arrangements were being made for an X-ray examination she passed from the bladder a stone 3-4 of an inch long and as large around

as a large lead pencil, a good deal resembling a peach kernel. Undoubtedly this stone had been in the kidney a long time and had gradually dilated the ureter until it could escape into the bladder. It is now six months since this stone was passed and her health at the present time is perfect.

DISCUSSION.

Irvin Abell: As Dr. Grant has said, there is a great deal to this subject, but I wish to speak only to the question of routine examination. The essayist opened his paper by saying that one should have a definite plan of action in every acute case. Of all the surgical diagnoses we are called upon to make, this holds true in kidney lesions especially. The examination should consist, as he has outlined, of analysis of the urine, and critical analysis of the past history, symptoms and physical findings. The bladder should be looked into carefully with a cystoscope, and the urine obtained from either kidney for the purpose of determining whether the condition is limited to one side or both. Even then the surgical examination should not be confined to the suspected side, but should include both kidneys, ureters, and the bladder. With the introduction of the cystoscope, the shadowgraph ureteral catheter should be employed. Especially is this true where shadows along the course of the ureter have been shown by X-ray examination. Ureters are frequently opened and searched for stones which are not found and do not exist. It is a well known fact that phleboliths and calcified glands will give rise to shadows which seemingly are stones in the ureters. These are easily differentiated by means of the shadowgraph catheter. In addition to this, there will be cases coming under observation in which the symptoms are apparently typical of stone, so far as the presence of pus, albumen and blood in the urine are concerned, but in which no stone is present. In some cases the introduction of a catheter will determine the presence of ureteral kinks by its passage being obstructed, or they may be detected by introducing collargol into the ureters with subsequent X-ray examination.

If such an examination as this be carried out as a routine measure, one will be in position to say positively beforehand whether or not stone is present, and whether or not any complicating conditions exist and, in addition to this, he will be able to form a definite idea of the character and extent of the surgery to be carried out and to give a rather definite prognosis. In the main I heartily agree with Dr. Grant's conclusions.

Louis Frank: I have enjoyed Dr. Grant's paper very much indeed. He has attempted to cover rather too much ground but he has given advice which is absolutely safe for the general practitioner to follow.

I wish to emphasize the remarks made in re-

gard to careful examination of these patients by means of the cystoscope and, particularly, the skiagraphic catheter, on both sides, before attempting any operative procedure, and this holds good irrespective of how definite the symptoms may be from a clinical standpoint. We are not justified, except in very rare instances, in opening the kidney and doing an operation for stone, without having previously made skiagraphic examination. I would even go a step further and say that we are not justified in opening the ureter or kidney for stone unless a skiagram has been made just prior to the operation. This should be done in every case. I have personal knowledge of two instances in which a skiagram indicated the presence of stone in the kidney, but when the kidney was opened, no stone could be found. In one it was later located lower down in the urinary tract. In the other case where the ureter was opened at the site of the stone as revealed by skiagraphic examination, no stone was found, and another skiagram after the operation showed that the stone had gone back into the pelvis of the kidney. With the facilities we have at our command in the present day, there can be no excuse for not having a skiagraphic examination immediately prior to the operation.

One point that Dr. Abell failed to mention in connection with the injection of collargol, is that this should be done when the patient is on the table, just prior to the skiagraphic examination.

With reference to the kinks mentioned, (here again illustrating the necessity of making these reexaminations just prior to the operation) I have had to occur what might be termed reverse intussusception, if that term be permissible. In this case a calculus had been present for a long time, producing repeated attacks of obstruction, causing enormous dilatation of the ureter above the site of the stone, the ureter being proportionately narrowed below. In attempting ureteral catheterization, it was impossible to introduce the instrument beyond this point. At operation it was found that the ureter had become invaginated upon itself, forming a valve which obstructed the flow of urine from the kidney and gave rise to marked hydronephrosis. I have never seen a condition of this character reported.

I was particularly interested in what Dr. Grant had to say upon the subject of calculus anuria. I have had opportunities for seeing several of these cases, and have knowledge of another occurring in the practice of Dr. W. H. Coleman. This latter case did not come under my personal observation, but the history was related and given me by Dr. Coleman. The patient, a child three months old, had total anuria for a period of twenty-one days. It was oedematous and comatose for a day or two and then began to pass large quantities of urine, and three days later passed a calculus three-eighths of an inch in diameter, after which the symptoms all subsided.

I would also call attention to the fact that, in some instances we can relieve calculus anuria by ureteral catheterization, and immediate operation is unnecessary. I have now under observation a woman who has four calculi in one ureter, which have been present some six or seven years. I saw her after probably thirty-six hours of total anuria. X-ray examination revealed the presence of four calculi on the left side; none on the right side. We were able to introduce a ureteral catheter with a filiform tip, and to pass the stones, which an ordinary ureteral catheter, blunt pointed, had failed to pass. After passing the highest stone, a large quantity of urine was discharged. The catheter was left in place for thirty-six hours, and at the end of a week the woman left the hospital with no symptoms whatever. X-ray pictures taken subsequently show that the stones are still there, but the woman has had no further obstruction. I mention this case as illustrating a procedure which might be advantageous in cases of calculus anuria where the obstructing stone is low down, and where it may be advisable to relieve the anuria before attempting operation.

In anuria where stones are present on both sides, operation should be carried out at once. This has been shown by Watson and others to be the procedure par excellence. Where stones are present in both kidneys, it is, in my opinion, advisable to operate upon both sides at the same sitting unless some condition arises during the first operation which precluded the possibility of carrying it out on the other side.

A study of the literature would seem to indicate that the proportion of cases in which the calculus is bilateral is much larger than eight per cent. From an exhaustive study of the literature in the past few months, I gather that the proportion of cases of bilateral calculi is about thirty per cent. and that calculi recur in about twenty per cent of cases. It has been shown that bilateral calculi sometimes follow operations for calculus on one side. I do not believe bilateral anuria is ever produced by reflex action, through the nervous system, on account of the presence of a calculus on one side. I do know, from one case I have seen, that we may have reno-renal reflex pain,—that is, that a calculus may exist on one side and the pain be referred to the other kidney. Nor do I agree with the French observer who said that wherever we find unilateral obstruction resulting in complete anuria, it may be taken as a positive indication that the patient has been living on one kidney only, because, in the case mentioned, I knew that perfectly normal urine passed from the other side for at least seventy-two hours after the anuria was relieved. Also, in another case, in which I was associated with Dr. Weidner, the man had a perfectly good kidney on the other

side and still has it, from this kidney came normal urine. As to the cause of total anuria where we have calculus on one side only, I think it is purely mechanical. We have a condition not unlike that which exists in some cases of nephritis. In nephritis we may have anuria due to congestion; here we have it resulting from arterial hyperemia. More blood enters the kidney than can get out; hence the circulation is stopped, no more blood can get in and there is necessarily cessation of the secretion of urine. Immediately upon decapsulation of the kidney, the arterial congestion is relieved and the secretion of urine is resumed. In one such case, the good and unobstructed kidney secreted ninety ounces of urine in twenty-four hours. This is a comparatively large quantity.

B. F. Zimmerman: Just a word in regard to reno-renal reflex pain. I saw a demonstration of this not long ago in a case that was brought to me with a diagnosis of renal calculus, although it seemed to me, from the appearance of the patient and the character of one of the attacks that I saw, that the condition was of hysterical origin. However, I decided to take no chances. Examination of the urine revealed a little pus but no blood; X-ray examination was negative. The left ureter, which was the one in which the pain seemed to be located, was catheterized but nothing was found. Having made a positive diagnosis in my own mind of an hysterical condition, I suggested to the physician that we endeavor to impress upon this patient that a few introductions of the catheter with lavage on that side would cure the condition, telling her that we had found a slight disturbance in the ureter on that side. In the first injection of argyrol I used about six c.c., and that caused some pain on the left side. At the second sitting, the following week, I introduced into the pelvis of the kidney six c.c. of this solution, and pain began on the right side, and became very intense. The pain was typically renal, and so marked was it that I thought possibly I had gotten into the wrong ureter, but with the catheter in situ and a cystoscope introduced on the other side, I found I was right. The catheter was introduced during the two succeeding weeks with a little pain on the left side but no more on the right. I believe the because it occurred upon the introduction of a pain in the right kidney was an hysterical reflex, rather small quantity of the solution into the pelvis of the left kidney, and the patient has had no further attacks of pain since that time, which was last October.

Jno. K. Freeman: I am sure that all of us have enjoyed Dr. Grant's paper. One very interesting phase of the subject that he touched upon is the period of life in which kidney stones are apt to occur. This has been talked about and written about ever since we have had a history of medicine. There are two periods of life when we

are more susceptible to renal calculi than at any other time; namely, in early infancy and childhood and in the latter part of life. We know that in the embryonic stage the human animal is quite similar to the lower forms of animal life. Embryology tells us that we very closely resemble reptilian life, and we know that the snake secretes almost pure uric acid crystals, especially during the hibernating period, and we often find uric acid calculi in the unborn foetus. Calculi of varying sizes have been rather frequently removed from children of very tender age, but we seldom see calculi in children after they have reached the age of two or three years. Any of us who have done much obstetrical work have noticed the pink stain on the napkins of babies during the first few months of life. That is the material of which calculi are formed. As a rule, as brought out by Dr. Grant, there is a foreign body around which this solid matter in the urine will crystalize. All of us have noticed, upon introducing a self-retaining catheter, how often it will become covered with phosphatic concretions, urates of ammonia, sodium, etc. Therefore, any little object, whether it be a blood clot or a bacterium of microscopic size, may be the starting point of a calculus in the ureter, in the pelvis of the kidney, or any of its ramifications.

I have had one case in which I am satisfied the calculus resulted from trauma. The trauma caused a hemorrhage into the kidney, resulting in the formation of a blood clot which acted as a foreign body, and the uric acid, urates, phosphates, etc., crystallized around it.

As to the stone exhibited by Dr. Grant, I cannot understand how any woman could have passed a stone of this size through the ureter. I think it must have passed into the bladder when it was smaller and increased in size there.

H. H. Grant, (Closing): I have nothing to say in closing except to thank the gentlemen who discussed the paper for amplifying the subject, which I realized was much broader than could be properly presented in one evening, and I left it to these gentlemen who have so well filled out what I had not time to present.

As to the stone about which Dr. Freeman is skeptical, I can only say that it was passed about a week or ten days after the woman had this attack, and it must have been in the kidney because the symptoms were indisputably those of renal calculi. That the stone could have increas-

ed in size during period between the attack and the time it was passed is, I think, most unlikely, as it showed no evidence of recent calculus formation.

HERNIA.

By GUY P. GRIGSBY, Louisville.

I feel some hesitation in presenting for your consideration the subject of hernia, since it is such an old and apparently well-known one. But when one realizes the number of sufferers from this malady and how few seek or at least obtain permanent relief, it causes no little wonder upon the part of those of us who are convinced of the efficacy of the operative relief for this condition. There must be some reason for this. Is it due to the ignorance or fear of the operation by the laity? Is this engendered by the ignorance and indifference first of the practitioner and secondly by the failures of the ill-informed operator? The skepticism occasioned by one failure will, by far outweigh the confidence gained by a hundred successful cases. It therefore behooves those of us who are sincere in our convictions and are backed by the results in competent hands, that brook of no contention to first convince the "doubting Thomases" in our own ranks of the merits of the operation that they may in turn give advice so sincere and convincing to their patients that many, rather than a few, will seek the benefits of this operation.

I wish, then, to direct my remarks first to the general practitioner and second to the operator. There are various stimuli which move us to write on various subjects. It may be an unusual case, or many cases from which we draw several conclusions. I have chosen this subject because upon several occasions I have advised some persons suffering from a rupture to be operated upon. I meet them a few days later wearing a self-satisfied smile and upon inquiry learn that a drug clerk has fitted him with a truss, at the same time assuring him of a cure and the futility and danger of an operation. Often, however, he has gone to the family doctor. One of the indifferent kind, who may suggest the possibility of an operation but certainly does not dream of urging it; the result is that the drug clerk or the instrument maker gets him, just

the same, only now, with the endorsement of the doctor.

We are all creatures of habit and we, as physicians, are especially prone to fall into a routine method of treating certain conditions and maladies. We have all experienced the difficulty and reluctance with which we give up an old favorite method that has been more or less satisfactory, for some newer method that apparently offers far better results. This fact is clearly shown, if I may so term it, by namely—the truss habit in the treatment of hernia. If by this paper I can enlist your efforts toward the elimination of the truss (except in certain suitable cases) I shall feel that it has served its purpose well.

I cannot help but condemn the indiscriminate application of a truss upon every otherwise healthy individual who is suffering from a hernia. A truss is very analagous to an opiate; it relieves temporarily but does not cure, and once the truss habit is formed there is very little hope that the individual will ever submit to an operation, not realizing that the time of golden opportunity is fast passing, nor the many dangers of strangulation he is constantly running. When you place a truss upon an unsuitable case, you not only do him an injustice, but yourself and the profession harm, because many of the cases will invariably fall into the hands of the quick-cure rupture quacks. While House Surgeon for the Ruptured and Crippled Hospital, in New York, I took occasion to look up the various concerns and individuals who were advertising sure cures for rupture. It is needless to say that the number was a revelation even to me, and their methods of cure were equally amazing and unique—trusses, salves, and even Christian Science being vaunted as sure cures. I wrote to several who were liberal advertisers and, therefore, apparently the most successful. Their plan was to send a salve or liquid, of wonderful strength and curative power; also a pamphlet explaining what hernia was, and why their particular appliance (usually some form of truss) was the only safe and sure cure. It was interesting to note that not one failed to condemn and deery the surgeon and his horrible knife. There may, perhaps, still linger in the minds of the older practitioners some doubt as to the success of operation, due to the many failures and relapses coincident with the earlier operative procedures. For these I can only hope that they will take the time and occasion to inform themselves of the true facts.

May I briefly state the use of the truss and its limitations. It is of invaluable aid in the use for the cure of hernia in children under five years of age, for the relief of those patients over sixty years of age, or those who

have a more serious ailment, that makes the hernia a minor consideration. The question of how large a per cent. of cases of hernia, in children are cured by mechanical means is an important one. It has falsely been stated that all hernias in children could be cured by the truss. This assumption was shown to be untrue by Bull and Coley in a study of 15,000 cases in adults. A large percentage gave a history of hernia in infancy or childhood. It is very probable that many more cases really had a hernia during infancy which was long forgotten. Some surgeons advise operations without the trial of truss treatment. Personally, I believe that under the age of four years a considerable number of cases of inguinal hernia and nearly all cases of umbilical hernia can be cured by truss treatment, hence the advisability of giving mechanical treatment a fair trial before resorting to operation. The truss must be worn for several years. It must make accurate pressure over the hernia ring and should be removed only for the purpose of cleansing, when the rupture is held up by the thumb of the mother or nurse who has been previously instructed. The truss should be applied just as soon as the rupture is discovered and it is not an unwise procedure for the physician to make frequent examination for this condition in early infancy. Umbilical hernia is frequent in infancy and early childhood and the results are even more favorable than the inguinal variety when treated by the means of a button and an adhesive strap. In the selection of a suitable truss in adults one should study each case carefully until he understands clearly what he desires to accomplish. The chief aim is to keep a small well-fitting pad directly over the internal ring, so that the mouth of the canal is closed, thereby obliterating the communication with the abdominal cavity. It should be adjusted perfectly to each individual patient. It should lie above the Glutei muscles, so that in walking, their action will not tend to disturb the position of the truss and its pad. It should press backward and upward, but never downward on the spine of the pubis. The pad should be oval in shape and not too conical, otherwise it allows itself to be forced into the ring which in time would gradually dilate the ring. My personal plan, is to take the patient to a truss maker and fit the truss best suited to the individual case.

It is best to bear in mind that the wearer of a truss is more or less a cripple, generally debarring him from army, navy, police and fire department service and makes him an undesirable insurance risk, and strangulation is always a possibility. In children over five or six years of age, there is practically no assur-

ance of a cure by the use of a truss, no matter how faithfully it has been used or how scientifically it may have been fitted, because it has been shown as previously mentioned that many of these cases though apparently cured, recur in later life. Now let us compare this with the radical or operative cure for this condition. I know of no operation that I can so safely promise a patient a cure as I can that for hernia.

At the Hospital for Ruptured and Crippled from December, 1891, to January, 1914, there were performed 4285 operations, of which, 3136 were for inguinal hernia in the male; 3119 indirect with 21 recurrences or .67 per cent, and 17 direct with no recurrences; 776 operations were performed for inguinal hernia in the female, namely 510 in children, with 1 or .19 per cent. recurrences, and 259 in adults, with 12 recurrences, or 4.63 per cent.; 7 direct with 1, or 14.2 per cent recurrence; 181 femoral hernia, 59 of which were in children, with no recurrence, and 122 in adults with 6 or 4.92 per cent. recurrences. Umbilical, 11, of which 34 were in children, with no recurrence, and 77 in adults, with 3, or 3.8 per cent. recurrences. Ventral, 68; that is, 16 in children, without recurrence, and 52 in adults with 10, or 19.2 per cent recurrences. Epigastric 12 with 1 recurrence, or 8.3 per cent. and lumbar 1, without recurrence.

As regards the method of operation, the typical Bassini operation was performed in the great majority of the cases of indirect inguinal hernia in the male, e.g. in 2441 cases, with 12 recurrences, or .49 per cent; in 678 the cord was not transplanted showing 10 relapses, or 1.4 per cent. as regards the direct type, Bassini operation with transplantation of rectus was done in 17 cases, with no recurrences.

The results of operation at the Hospital for Ruptured and Crippled from 1891 to 1914 show that in 181 cases of femoral hernia there were 6 relapses, four of which occurred after operation for a previous recurrence.

Separating the children from the adults, we have 59 cases in children without relapse, and 122 in adults, with six relapses of 4.92 per cent.

For umbilical hernia they are now using the Mayo or overlapping method with great improvement over former results, i.e. in 80 cases operated upon by the Mayo method there was 1, or 1-2 per cent recurrence; in 31 cases operated without overlapping, there was 2, or 6.4 per cent. recurrences. In 32 cases which were strangulated, there was one recurrence of 3.1 per cent; 61 operations were done for superficial inguinal and interstitial

hernia, without recurrence, and 231 operations for undescended testicle associated with hernia, with one recurrence. The total number of deaths was 8, or .18 per cent.

This report speaks more strongly than any argument that I might bring forth as to the safety and merits for the operative relief for this condition. This statement might be contested on the grounds that these operations were performed by men of unusual skill in this particular operation. This is not wholly true, because many of these cases were performed by assistants and various House Surgeons. Furthermore, they comprise many cases during the early period of this operation when the technique and asepsis were not so nearly perfected, hence the results are not as good as they are at the present time.

Now it would seem to me that when a patient comes to you with a hernia that he has the right to know from you these facts. Tell him that a truss offers practically no hope for a cure, an everlasting semi-disability and he is constantly running the danger of strangulation with its high mortality. That operation affords him over 99 chances out of 100 for a permanent cure, that it means a total disability for two weeks, a semi-disability for two weeks and operative risk so slight that it is hardly worth considering. There is a natural skepticism and antagonism that is borne by the public against operations that can only be overcome by a plain statement of facts by the physician that will prove to him that the operation is the wisest course both as to cost and to health. Now, I am convinced that the laity in general do not know these facts and they have a right to know them and from you. If you are as firmly convinced of the merits of the operation as I am myself, you will not only advise but urge that they submit to it.

I hardly know whether I am justified in going over the details of the technique of the operation for inguinal hernia, as it is so well known and so often performed by a number of my hearers. My only excuse is perhaps that in so doing that I may offer some suggestion that may not be exactly clear to some of those who do this operation. I know of no operation, the technique of which can be so systematically planned before operation and can be so successfully carried out at time of operation. However, there is a right and a wrong way to perform the operation. If we are to meet with uniform success we must have a general plan that has to be followed and that is modified to meet special conditions. The operation that I believe has stood the test of time and gives the most uniform success in the hands of many operators has been the Bassini operation or some modification of it. What then are the essentials that

lead to success in this particular operation?

1. Asepsis.
2. A thorough understanding of the anatomy of the parts.
3. Familiarity and moderate proficiency with general surgical work.
4. Nice clean dissection with a minimum of trauma that will protect the vitality and the nutrition of the tissues.
5. Complete hemastasis.
6. Removal of all foreign substances in the canal such as fat, etc.
7. Free exposure of the shelving portion of Poupart's ligament and internal of oblique muscle.
8. The accurate approximation of the muscles and fascia that are used to repair the defects.

We should hope and expect to get primary union but a superficial infection does not necessarily mean that your operation will be a failure. An infection is rarely carried into the deep part unless some unabsorbable suture material has been used. On the other hand, do not think because you get primary union that you have necessarily effected a cure. It after all, depends upon the accurate approximation of the deep parts regardless of the manner in which the skin is closed.

As soon as the skin incision is made remember the fact that all bleeding should be controlled at once. The nearer that this detail of the operation is carried out, the easier will the important structures be recognized. If you do not control your bleeding, particularly after the aponeurosis has been split, your cord and sac will soon become blood-stained, making it most difficult to recognize the sac. A great many operators have difficulty in locating the sac, and much injury is caused to the surrounding structures by a too strenuous search for it. This is often accounted for by the fact that the sac is usually covered by the cremaster muscle as well as the transversalis fascia. To find the sac always remember to look for it high up near to the internal ring. By the use of a tissue forcep the overlying fascia and muscles are easily removed exposing the white sac beneath. This is grasped by forceps and is dissected free from the cord structures. Examine the sac carefully, if it should be unusually thick, bear in mind the possibility of it containing a portion of the bladder, consequently open it carefully. To illustrate this I wish to briefly report a case.

Mr. E. D., white, consulted me the latter part of February, 1914, on account of a left inguinal indirect hernia. He was 16 years of age. He first noticed his rupture six months previous and it only occasionally gave him any discomfort. It was reducible, about the

size of a hen egg. I operated upon him and upon dissecting out the sac, I found it contained something I thought was intestine. I carefully opened it and found instead that it was a prolongation of the bladder, which was closely adherent to the sac. I was able to free the bladder from the sac, without injury. It was pushed back into the cavity and the sac was ligated in the usual manner. I was impressed at the time with the fact that if I had not been very careful in examining the sac before opening it that I would have cut into the bladder. A complication that is not necessarily fatal or even serious but on that should not occur. The patient made an uneventful recovery.

If the sac should contain omentum, that shows that at any time that it has been constricted or is abnormal it is best ligated. The sac should be dissected from the cord, high up. It is then transfixed and ligated care being taken not to allow anything from the cavity to protrude and be caught in the ligature. After the sac is cut into, the ligated portion should retract underneath the muscular structure. I believe this is one of the most important features that determine the success of this operation, namely—the free dissection and high ligation of the sac.

The cord is usually transplanted following out the idea of the typical Bassini operation. There may be some instances in which it is advisable not to transplant the cord, particularly in cases of undescended testicles. The next step is the bringing together of the internal oblique to the shelving portion of the Poupart ligament. The suture material is medium kangaroo tendon. One suture is placed above the cord. Do not close the muscles too tightly about the cord for fear of constricting its blood supply. Remember to only bring the muscle and Poupart's ligament together with moderate tension on your sutures or otherwise you will produce necrosis and defeat the very purpose you are attempting. The aponeurosis is closed by a continuous suture, likewise the superficial fascia. The skin may be closed in any way to suit the idea of the individual operator.

In direct hernias or those cases of atrophy of the internal oblique the transplantation of the rectus is used.

DISCUSSION.

F. T. Fort: I have listened to Dr. Grigsby's paper with a great deal of pleasure. I do not believe there is any operation in surgery that promises any better results than that for hernia. However, an essential requisite in this operation, especially for inguinal hernia, is perfect technique.

I do not believe in the use of trusses. It may be that they can be used to advantage in the very young, but even here it is a question whether or

not a hernia will develop later in life, for this reason: Where you use a truss, you simply seal the canal, just as we seal a letter, and in after years the patient has enteroptosis, and the bowel gradually worms its way out where the sealing has taken place until the hernia is back at the beginning. Where the patient does not have enteroptosis, I do not believe recurrence is so likely to take place, but where they do have this trouble later in life, with all of the abdominal organs inclined to come down, the hernia will recur and if the individual happens to be working for a corporation, a suit based on a traumatic hernia, is apt to be the result. It is cases of this kind that give rise to claims for traumatic hernia. The chink has never been thoroughly closed, but has simply been sealed up and the intestines are resting in there, and they worm their way down farther and farther until almost any slight jolt or jar will produce hernia. On the other hand, if we operate and get union by first intention, the patient can accept almost any strenuous employment without fear of a recurrence. During my sixteen years experience as a railroad surgeon, I have operated on a great many men employed as switchmen, brakemen, and conductors, who are constantly jumping on and off cars, and there has not been a single recurrence that I know of. I do not believe there is any better test of the radical cure for hernia than in such occupations as railroad men. I am not as familiar with the Andrews operation as with that of Bassini, and while there are some points about Andrews operation that appear to be advantageous, still as long as I am able to secure the results that I have obtained heretofore with Bassini's operation, I think I shall stick to it.

W. C. Dugan: In the main I agree with everything Dr. Grigsby has said in his excellent paper. I am glad he brought this subject up, especially the statistics as to the mortality and results of operations for hernia; they are even better than I had thought.

There are one or two points I would like to speak to. One is the question of the removal of the fat. I have been surprised by the large percentage of patients presenting fat in the cord. I have seen cases where the fat was in the form of a tumor and had been mistaken for the hernia, but as a rule, in such cases, we will find the hernia further on, if we look for it. I am glad that the essayist has emphasized the importance of fat in the cord and its careful removal. I also wish to agree with him in regard to carefully controlling the hemorrhage. I think that is the keynote of good results from these operations.

In regard to the omentum, I believe that in every one of these cases where the omentum is in the sac, it should be removed. This is a rule to which I do not admit an exception. However, in separating it we should be careful to ligate each segment in which there is a large vessel.

In regard to transplantation of the cord, I formerly practiced this, but I have quit it because I find that just as good results can be obtained by separating it carefully from the sac and allowing it to remain on the shelving process, and then suturing behind the cord.

I am glad the doctor called attention to the advantage of exposing the shelving process. This is most important. The tissues should be wiped off with a sponge until the fibres of the shelving process of the internal oblique are brought plainly into view. When this is done, the risk of damaging the blood vessels beneath is reduced to a minimum. We can obviate this risk almost entirely by slipping the nail of the finger under the shelving process of the external oblique and bringing the needle out right at the finger nail. Unless this is done, there is always danger of puncturing the veins and arteries lying just beneath this structure.

Another point is the ligation of the sac. As the essayist has said, unless we separate the sac so as to destroy the infundibulum, the operation is likely to be a failure. That is my first step, separation of the sac from the patient so as to place the ligature within the abdominal wall—not the cavity, but the wall. Second, the ligation. The operator or his assistant should introduce the finger so that the tip is just within the internal oblique. This serves a double purpose. First, it insures that you will not include in your ligature a knuckle of gut or a piece of omentum; secondly, you can place the ligature just where you want it. Then slip the ligature in until it reaches the end of the finger and slips over. Then you know you have nothing that should not be included in the ligature. I do not care to transfix the sac as the doctor has suggested; I simply tie it en masse. I see nothing to gain by transfixation. Of course, it does help to prevent slipping of the ligature, but the experienced operator does not fear that. There is a possibility of a slip, I will admit, but I have never been so unfortunate as to have it occur.

In regard to traumatic hernia, I saw a case just a few days ago which illustrates two points. This boy was supposed to have been cured of hernia when he was a child by means of a truss, which he wore for several years. A few days ago, while at work, the hernia recurred, and he claims it was due to some unusual effort he made, which it doubtless was. It was a complete hernia, going through the canal and entering the upper portion of the scrotum. Of course, there is no question that this was a recurrence of an old hernia, but the case illustrates the point made by Dr. Parsons. This boy was operated upon for strangulated hernia, and it proved to be a congenital condition, as we expected. As intimated by Dr. Parsons, I believe all such cases are old herniae which are reopened.

R. T. Pirtle: I wish to congratulate Dr. Grigsby upon the excellent paper he has given us.

Speaking of recurrence of hernia, I saw a great big fellow weighing about two hundred pounds, whom Dr. Coley had operated upon, and about the third week after the operation, he carried a piano downstairs by himself and the rupture recurred.

During the time I was in the Ruptured and Crippled Hospital in New York, these cases were followed up very carefully. The patients were asked to report back at the hospital at intervals, and some of them were kept track of for four or five years. When one was lost track of, some of the boys would be sent out to hunt up the patient.

Another point the doctor did not mention is the way we used to dress these children. First, we used aristol powder on them; then a gauze pad was applied and a heavy canton flannel bandage over that. Then a plaster of Paris bandage was applied and kept on for a week. This kept them from tearing the dressing off and also prevented the urine from soaking the dressing. At the end of a week they were taken to the operating room and the dressing removed. Then they were dusted again with aristol powder and a plain spica applied. At the end of the second week they were dressed again, and after a few days allowed to go, with instructions to report back at intervals.

Dr. Richardson will remember one case in which I operated on one side and one of the other internes on the other side. At the end of six weeks the patient came back with what was thought to be a recurrence. After examining the patient, however, it was found that in addition to a double inguinal hernia, the patient had a double femoral hernia also. This was operated upon and the patient had no further trouble.

Jno. B. Richardson, Jr. In the case referred to by Dr. Pirtle, in doing the subsequent operation for the cure of the femoral hernia, the operator opened up what he thought to be the hernial sac, and it proved to be the bladder. It was immediately closed, with a small drain, and no untoward results ensued.

One point that will help us to know when we have entered the bladder, is the fact that the bladder will always bleed, while the hernial sac will not.

The truss exhibited by Dr. Grigsby is certainly a very good one. There are many who object to it, claiming that the shank on the piece around the abdomen is not a good idea, but we know that it does cure hernia in children up to four years of age. It has been claimed that it will effect a cure in fifty per cent of cases, but this percentage is probably a little high.

Dr. Dugan spoke of the danger of injuring the deep vessels. This danger can be almost completely obviated by tying the sutures as we put them in. However, if hemorrhage does occur, no

ill results will follow. Remove the suture and the hemorrhage will stop.

I wish to indorse practically everything Dr. Grigsby has said on this subject.

Albro L. Parsons: Although the essayist did not go into the etiology of herniae, I do not believe it will be carrying the discussion very far afield to ask one question. The subject of traumatic hernia is intensely interesting to me at the present time, in view of the fact that I have been made the defendant in a suit for damages on account of a so-called traumatic hernia. This individual, a plumber who was doing repair work on a house which I happen to own, claims to have fallen into a ditch. According to his claim, he was injured internally, externally and eternally. Among other things he claims to have ruptured himself. I would like to ask Dr. Grigsby to tell us, in closing, his views on traumatic hernia; whether a fall into a ditch could cause the development of a complete serotal hernia for the first time in the life of the individual.

W. Barnett Owen: "I have enjoyed the paper very much indeed, and I agree most heartily with practically everything the essayist has said. I was particularly glad to hear him emphasize the essential points of the operation; namely, complete haemostasis, high ligation of the cord, and closure of the different layers without any tension on the sutures.

The case he reports, illustrating a prolapse of the bladder into the hernial sac, I had the pleasure of assisting him, and had he not been very careful, a she says, he certainly would have gone into the bladder.

As to the method of operation, I have seen a great many different methods. Men who have a wide experience in these operations have practically discarded all except the Bassini operation, except in undescended testicle.

Lee Kahn: I concur in the main with the essayist and those who have discussed his excellent paper. I merely wish to emphasize some of their points.

I agree with Dr. Dugan that it is essential that fat be eliminated from the herniotomy wound, if an ideal result is to be expected. I agree with him that the imbrication method of Andrews is the one of choice in inguinal hernia. Whether the cord be transplanted or not is a matter of individual preference. In the indirect variety I see no reason for doing so; the establishing of a new canal is an unnecessary procedure where the natural canal is not anatomically at fault. If it is restored, eliminating the sac and ligating its neck well above the internal ring, you have done all that is necessary.

The manner of closing the sac, I think depends to a great extent upon its thickness; if its neck is thin and small, it is best closed with a transfixing ligature; if it is thick and large I should not

ligate it en masse but close it as we ordinarily close the peritoneal cavity, by suture.

In dealing with femoral herniae we seem to have lost sight of this old observation, that it is exceedingly difficult to keep patent any circular opening in the body that is not lined with serosa or mucosa. If in a femoral herniotomy we will content ourselves with eliminating the sac, dissecting it high and ligating it high at the internal border of the femoral ring, I believe that nothing more is necessary, assuming, of course, that the fat has been thoroughly removed.

I understood Dr. Grigsby in quoting statistics of the Hospital of Ruptured and Crippled, to say that many cases of femoral hernia recurred. It would be interesting to know in connection with these recurrences, whether or not the continuity of the ring had been broken, as may have been necessary to relieve strangulation. Of course, under such circumstances merely dissecting out the sac would not give a perfect result.

Some of the difficulties encountered in the technic of herniotomy have been mentioned. I believe the danger of injuring the blood vessels would be lessened by careful selection of our needle. I prefer a round, curved needle with a large eye, carrying a pliable suture.

As to injury to the bladder, Dr. Richardson brought out a very practical point when he mentioned that it be recognized by its tendency to bleed, but our best warning of its proximity is the presence of much properitoneal fat. However, entering the bladder is seldom of serious moment if promptly closed.

Guy P. Grigsby, (Closing): One phase of the subject in which I was most interested was not touched upon in the discussion; namely, why do not more of these cases come to operation? At medical society meetings like this, we hear that the results of operation in these cases are really wonderful, and the very next day, perhaps, some of the men who were present will put a truss on a case of this kind. That is the point I tried to bring out in the paper—why we will persist in putting trusses on these patients when we know the good results that may be obtained from operative procedure. In every case of this kind I advise and urge operation, but where the patient will not consent, of course, I apply a truss, although I almost feel that I am doing the patient an injustice, and I never put on a truss except as a last resort, because, as stated in the paper, these patients hardly ever come to operation afterwards unless strangulation develops.

Dr. Parsons' question is one that has been discussed pro and con for many years. I believe the consensus of opinion among the great majority of men of experience in this class of cases is that practically all herniae are congenital. If a hernial ring is present at birth, all that is necessary is some unusual trauma that will increase the intra-abdominal pressure sufficient to force

some portion of the abdominal contents through the opening, and a hernia develops. For that reason, although we may have hernia following trauma, it is simply the filling up of a congenital hernial sac.

In regard to transplantation of the cord, in the Hospital for Ruptured and Crippled, it was the practice, in all double herniae, to transplant the cord on one side, and carry out the non-transplantation procedure on the other side. The reports from that hospital show a greater recurrence in those cases in which the cord was not transplanted. In other words, the typical Bassini operation with transplantation of the cord is the operation of choice.

COUNTY SOCIETY REPORTS

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, on Wednesday, June 10th, 1914, with the following members present: J. N. Blackerby, Blades, Brown, Chipman, Clark, Cram, Eckler, Ellis, Kendall, McKenney, Nichols, J. Ed aylor, Woolery, J. H. Caldwell Newport; S. G. Murphy, Amarillo, Texas, and G. W. McMillen, of the same place, formerly of this county, paid our society a visit.

After roll call and reading of the minutes of the last meeting and the transaction of some routine business, we proceeded to the transactions of the day.

We had a very good report of clinical cases.

J. H. Caldwell, a surgeon of Newport and Cincinnati, reported some valuable cases of surgery that he had operated upon from this county and ones that some of our doctors were much interested in and showed some splendid results. He also entered into the discussion of cases, and also of the single paper that was read to the society.

T. C. Nichols read a good paper on "Tumors of the Breast," which was along a line that all were more or less familiar with and all entered into the discussion with some vigor. This paper was sent to the Journal for publication.

Take it all in all we had a splendid day and all present enjoyed themselves as well as the distinguished visitors from abroad.

W. A. McKENNEY, Secretary.

Leukemia. — Treatment. Benzol (benzene) used in six cases of myeloid leukemia and one of Hodgkin's disease with good results. Given in capsules each containing 0.5 Gm. (8 minims), with same amount of olive oil; at first, 4 capsules daily, after meals, then 2 capsules 3 times daily, later 4 times, and finally 5 times. Leucocyte count gradually lowered to normal, fever disappears, and general condition improved. Effectual where other measures, including X-rays, have failed.—Királyfi.

KENTUCKY MEDICAL JOURNAL

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EDITORIAL.

NEWPORT MEETING.

The preliminary scientific program for the meeting of the State Association, to be held at Newport, is published on page 470 of this issue. Dr. Anderson is to be congratulated on this splendid program.

PELLAGRA.

Several of the leading practitioners of the State have been urging upon the State Board of Control consideration of the advisability of the admission of cases of pellagra to the State Hospitals during the early stages and before mental symptoms develop, with a view to the prevention of such development. This suggestion is based upon the lack of a successful treatment for the advanced stages of the disease and the fact that fear of the still unknown *contagium* prevents the nurses and members of the family from giving the degree of systematic attention to the unfortunate victim of this disease that its seriousness deserves.

The medical profession of Kentucky takes a good deal of pride in the improvement in recent years of our State Hospitals for the Insane and it is a pleasure for the JOURNAL to note the confidence with which the leading clinicians of the State appeal to our own State Institutions for up-to-date scientific treatment.

TYPHOID FEVER IN HENDERSON.

The entire profession and people of Kentucky are interested in the typhoid fever situation in Henderson. The people of Henderson are to be congratulated upon the public spirit with which they have met the situation. It is of more than passing interest that the

proportion of cases there is not much greater than in several other cities of the same class in the State, and Henderson is setting a good example for others in making public its difficulties and in going about their solution in the right way. The City health authorities have kept in close touch with the situation, and at their request a careful survey of health conditions in Henderson was made on July 14 by Dr. W. L. Heizer, State Registrar of Vital Statistics, and Dr. W. H. Frost, Passed-Assistant Surgeon of the United States Public Health Service. The conditions found are in no way unusual. The raw water supply from a river polluted with human excrement, lack of sewage disposal in the city itself; ineffective methods of supervision of the meat, milk and other food supplies: conditions in nowise peculiar to Henderson, but alike dangerous and deadly in any place in which they occur. The towns and cities of Kentucky must clean up and the question is whether the taxes shall be paid in money or toll for civic stinginess paid in human life.

INSTRUCTIONS FOR PREVENTING THE SPREAD OF TYPHOID FEVER.

The instructions for preventing the spread of typhoid fever are so simple and so complete that we publish them here with the hope that they will be read by every medical practitioner in Kentucky. It is a recognized fact that intelligent compliance with these instructions would really prevent typhoid fever from spreading. The time is coming, and coming fast, when the profession of medicine shall give a large share of its attention to the prevention of sickness and death from such diseases as typhoid fever, and to the building up of such a condition of health in the individuals dependent upon

them for advice as will fortify them against many of the diseases which are now classed as unpreventable. Of course methods of compensation and all of their relationship between the profession and people will have to be revised before these things can come to pass; the discriminating and far-seeing physician is familiarizing himself with such plain, common-sense instructions as Drs. Heizer and Frost have prepared for the people of Henderson and is utilizing them in such a way as to entitle him to be considered a real guardian of health of the individuals composing his clientele:

"Typhoid fever is due to a germ, the typhoid bacillus. This germ is very small, (1-25000 of an inch), so small that many millions may be picked up on the point of a pin or carried on the legs of a fly. The disease is caused by swallowing these germs. The typhoid germs are present by the thousands of millions in the bowel discharges and urine of people sick with typhoid fever. *Wherever these germs may be found, they came from the bowel discharge or urine of some person infected with the germ.*

Anything that will carry the bowel discharges or urine from a person with typhoid fever to the mouth of another person may cause the disease.

These are some of the most common ways in which the germs are carried:

(1). They are carried on the fingers of persons who have handled typhoid fever patients or the discharges from these patients. Fingers that look clean may still carry enough germs to cause the disease, by contaminating the food and drink taken by other people.

(2). They are carried by flies which get the germs on their feet in the sick room, in the privy vaults where the discharges have been emptied, or on the back porch where the bed pan is kept. These same flies may next visit your kitchen or your dinner table.

(3). They are carried by water, milk, ice-cream or other food and drink which has been contaminated with these discharges and is taken into the stomach without cooking, kills the typhoid germs.

The way to prevent typhoid fever is to destroy the germs. The place to destroy the germs is in the discharges from the typhoid fever patient. The time to destroy them is before the discharges are taken from the sick room. The methods for destroying the germs are told in this article. You can not kill the typhoid germs by giving medicine to the patient. You can kill them by disinfecting the bowel discharges and urine of the patients according to these rules. You can not prevent the rest of your family from taking typhoid

fever by giving them medicine. You can prevent it by following out these rules.

RULES TO BE OBSERVED IN THE CARE OF TYPHOID FEVER PATIENTS.

If you neglect these rules, you endanger the health of yourself, your family, your neighbors and the city.

As soon as you learn that you have a case of typhoid fever in your home, begin at once to carry out strictly all the following precautions:

(1). Put the patient in the coolest, most comfortable room in the house. Kill *every* fly you find in the room. Screen the room thoroughly, remembering that a small hole may let in a whole lot of flies. If you can not afford wire screens, tack mosquito netting over your windows and keep the door shut. Keep fly paper in the room and kill all the flies that get in, using a wire fly killer.

(2). No one should be allowed in the sick room except those who have the care of the patient. Children and visitors should never be admitted into the sick room.

(3). Make up and keep on hand a good supply of disinfecting solution No. 1. (See end of article for directions.) For the discharges of the patient, and solution No. 2, for the nurse's hands and the soiled linen.

(4). Every time the patient has a movement of the bowels or passage of his urine, add immediately in the same vessel which the patient has used a pint of solution No. 1. Mix this thoroughly with the stool or urine, cover the vessel tightly to keep out the flies, and let stand one hour before emptying into the water closet or privy. If emptied into the privy cover at once with slacked lime. No disinfectant can kill the germs unless it is brought into actual contact with them for a sufficient time to act. After the patient has a movement of the bowels, wipe the parts with toilet paper moistened with solution No. 2.

(5) After handling the patient or anything used by him the nurse should first soak her hands for two minutes in a basin of solution No. 2. Then wash them thoroughly with soap and water. A basin of solution No. 2, should always be kept in the room for this purpose.

(6). All dishes, knives, forks, spoons, and glasses used by the patient should be put into a pan with enough water to completely cover them, and as soon as taken from the room should be boiled. The patient should be provided with separate eating utensils, glasses, etc. All scraps of solid food left by the patient should be burned. Milk and other liquids left by him should be emptied into the bed-pan, containing solution No. 1.

(7). Sheets, pillow cases, night dresses, handkerchiefs, and all other linen used by the

patient must be disinfected before they are washed. To disinfect these articles, either soak them for an hour in a tub of solution No. 2, or else boil them as soon as they are removed from the sick room.

(8). All water that has been used for bathing the patient should have undiluted carbolic acid or ehloride of lime added to it before it is emptied. (Six tablespoonsful of carbolic acid or one-half cup full of ehloride of lime to every gallon of water).

(9). Bottles or cans in which milk or ice cream is delivered to houses where there is typhoid fever must never be taken into the sick room; they must not be handled by the nurse and must always be washed and boiled before being returned to the dairy.

Remember, that a person who has typhoid fever may continue for a long time to discharge the germs from his bowels and bladder. For this reason every person who has recovered from typhoid fever should continue for at least six months to use every precaution to prevent giving the disease to others. He should not use an open privy, should not pass his urine on the ground, and should always wash his hands carefully after urinating or having a movement of the bowels.

To carry out the instructions will cost you but little trouble and a very small expense. To neglect them may cause other cases in your family, resulting in much greater trouble and expense.

If these precautions are carried out strictly you need not greatly fear contracting typhoid fever from a case in your own family or among your neighbors.

DIRECTIONS FOR MAKING DISINFECTING SOLUTION.

Disinfecting solution No. 1, for disinfecting stools and urine:

Add one-half of a pint of the best ehloride of lime to a gallon of water, mix thoroughly and keep in large well stoppered bottles. This solution must be made fresh every few days.

Disinfecting Solution No. 2, for the hands and the linen: Add six tablespoonsful of crude carbolic acid to a gallon of water, or for other quantities in this proportion; mix thoroughly. Always keep a bottle of this disinfectant in the sick room for the nurse's hands, and a tub or pail of it for the sheets and other linen. This solution is poisonous if swallowed."

SCIENTIFIC EDITORIALS.

DERMATOLOGY AT 1914 A. M. A. SESSION.

The future dermatology in America is very promising. The American dermatologists are making very rapid progress and it is only a question of a few years that we will have just as good dermatologists here as there are in Europe.

Many questions of importance were discussed in the last meeting. The necessity for the establishment of a national leprosarium was thoroughly discussed. Assistant Surgeon General Rucker showed that leprosy is gradually increasing in the United States. He claims that the study of leprosy has been very much neglected in this country. And that lepers, in many cases, have been subjected to inhuman treatment. Everybody is aware of the fact that the way lepers were treated by the different States of the Union is a disgrace to American civilization and in the words of Dr. James Winfield, is "a parody on American love of fair play." The establishment of a national central leprosarium would prevent the migration of lepers from one state to the other.

Dr. Dyer, of New Orleans, who had very large experience with the study of leprosy and who is in charge of the leper colony in New Orleans, voiced the sentiment of Dr. Rucker that the study and care of leprosy should be in the hands of the federal government. State administration does not accomplish much. With complete federal control of leprosy there will be great opportunity for research, treatment and cure. A committee was appointed by the dermatological section and a bill was drafted to be presented to the President of the United States and the House of Representatives, setting forth the danger of the leper at large and urging upon the United States Government the necessity of a national law and the establishment of a national home.

Diphtheria was shown to not be found in the mucous membrane alone, but that unusual type of diphtheria are found on the skin. Many cases of diphtheria to the skin were studied and cited.

Prof. Arndt, of Berlin, the most eminent dermatologist in Germany, read a very interesting paper on the diseases and new growth of the skin of lymphatic origin. His classification of leukemia cutis was practical and excellent. Under leukemia cutis he includes sarcoma, sarcoid and Hodgkin's disease. The paper was a very scientific and practical one,

and when it appears in the A. M. A. Journal it will be well worth reading.

While Dr. Schamberg, the director for research studies in psoriasis, holds metabolism as an important factor in the production of this disease, other investigators were not so enthusiastic about this theory. Dr. Gottheil, of New York, claims remarkable results for the intravenous autoserum injections.

Salvarsan treatment has received quite a severe jolt. It has not proved such a wonderful and permanent therapeutic agent as was expected. Promiscuous use of salvarsanized serum was greatly condemned. Intraspinal medication must be used cautiously and carefully by men who are greatly experienced in neurology.

Hazen, of Washington, D. C., sounded another warning in regard to comparative frequency of syphilis in negroes. He claims that 75 per cent of the negroes, who serve us, are afflicted with syphilis. Some special problems of prophylaxis treatment should be established.

Dr. Foerster, of Milwaukee, very ably brought forth the idea of association of erythema nodosum and tuberculosis. Reviewing the extensive literature, he showed that there is association of erythema nodosum with tuberculosis. This etiological factor is more evident in children, while in adults it has no uniform etiology.

Radium, as a therapeutic agent, has not aroused so much enthusiasm as it did a few years ago. In the discussion, the followers of X-ray therapy claimed as good results as from radium therapy. Radium is a valuable addition, though, to our armamentarium and it has its use and limitations in skin diseases.

M. L. RAVITCH.

Test for Typhoid Bacilli in Water.—Bielonovsky used an agglutinating serum for detection of typhoid bacilli in river water. Two liters (4.2 pints) of water were mixed with enough agglutinating typhoid serum (titrated 1:1,500) to make a strong titrated serum of 1:100. For this purpose he added 2 gm. of dry serum, previously dissolved in physiologic salt solution. The mixture was placed in a thermostat at 37 C. Twenty-four hours later the supernatant fluid was decanted and the sediment spread on the culture medium of Drigalsky-Contradi. With this method he succeeded in detecting the typhoid bacilli in very great quantities in different sources of the water-supply of the town Reval in Russia. Bielonovsky considers this method, which is a modification of the Vindelbandt-Shepilefsky technic, much superior to other methods. With others, the presence of typhoid bacilli in the water could be proven only twenty times, while in more than 5,000 tests these methods failed.

ORIGINAL ARTICLES

ACUTE DYSENTERY.*

By F. M. SHERMAN, Lewisport.

In the summer months and early autumn, there is possibly no intestinal disease which confronts the doctor so often and taxes his ingenuity and skill so much as does dysentery, or flux as it is sometimes termed. We find it in the young as well as in the old, prevailing at that time of the year when the days are hot and the nights are cool. Malaria in some instances seems to play a part, possibly acting more as a predisposing factor than a direct cause of the trouble. However all forms of dysentery are bacterial in origin, and it seems from investigations thus far made that no one form of bacteria is responsible but many play a part.

It seems wise with our present understanding of cases to drop the term dysentery as a generic one, grouping them under the general head of ileo-colitis, until an etiological classification shall become possible it being an infectious disease like typhoid fever the principal source of contamination being from food and drink, occurring either sporadically, endemically, or epidemically.

Clinically the disease manifests itself in four forms, viz: The acute or catarrhal, amoebic or trophical, croupous or diphtheritic and chronic. I shall only attempt to describe the acute form in this paper as it is the one we usually meet.

In regard to the pathology of the acute form, I shall not enter very fully, as I am quite sure you are all familiar with the pathological conditions which exist, sufficient to say that there is a congestion and swelling of the mucous membrane and submucosa of the large bowel with an over-production of mucus, the follicles are enlarged as a result of their inflammation and the retention of their contents. The mucous membrane softens and is detached in patches, forming ulcers. The ileum and colon being most seriously affected, Although it is not uncommon to find quite marked changes in the small intestine and in severe cases even in the stomach.

Symptoms. Onset of the disease is usually sudden often with vomiting. Sometimes for twenty-four hours the symptoms may be those of acute indigestion.

Character of stools, consists of at first, of fecal material and undigested food; second, slimy and purely mucus; third, watery in character; fourth, blood and mucous, this is the general character of the stools, of course

*Read before the Daviess County Medical Society.

it may vary in different cases and in different forms of colitis.

When the patient goes to stool he passes a small amount of blood and mucus, and has a great tendency to sit and strain with more or less tenesmus and griping on passage of stools. frequent desire to defecate; may have an action as often as every half hour, passing possibly not more than a teaspoonful of blood and mucus at a time; after two or three days the blood gradually disappears from the stools and only appears in traces, but the mucus is present in large quantities. Abdominal pain is usually present and is usually very intense just before defecation frequently there is considerable tenderness along the course of the colon; for the first twenty-four hours the temperature ranges from 102 to 104 degrees F., the greater part of the attack it ranges from 99 to 102 degrees F. With this constant loss of secretion and hemorrhage and loss of appetite we would naturally expect to find great prostration and emaciation.

Diagnosis is usually easy. It is to be distinguished principally from typhoid fever and in children it may be confounded with intussusception. Typhoid fever may be differentiated by the slower invasion more constant temperature, step-ladder in character, and the absence of hemorrhage in the first stage, and if occurring at all it is usually in the latter part of the disease. And most of all by the Widal reaction, and eruption. It should not be confounded with intussusception, in intussusception, although we have the sudden onset with the pain and vomiting, and marked prostration, there is rarely fever and hemorrhage at the onset, having had one case in which the temperature remained subnormal until the later symptoms set in, which was obstipation, presence of tumor, tympanitis, rising temperature, and stercoraceous vomiting, and collapse. The different clinical forms as a rule must be distinguished by a microscopical examination of the stools.

Prognosis is much worse in infants than in adults, it is especially bad in cities among the poorer classes, also bad when preceded by rickets and malnutrition and when complicated by broncho-pneumonia, nephritis or meningitis. Frequent stools, continuance of hemorrhage, persistent high fever, and marked prostration, are very unfavorable symptoms.

Now coming on down to the treatment, keeping the following dictum of Osler in mind, no case of dysentery, however light, should not be lightly considered. "Dysentery is one of the four great epidemics of the world: in the tropics it has destroyed more lives than cholera, and it has been more fatal to armies than powder and shot."

The patient should be confined to bed as soon as a diagnosis of dysentery is made and kept quiet as possible. My first instructions to the family is in regard to the prophylaxis. I first try to ascertain where the contamination occurred, whether from the water supply, food or what ever source it may be and try to correct it if possible. Next I direct their attention to the care of the patient. All the passages from the bowels and kidneys should be received in a proper receptacle and carried off and buried at proper localities, where they will not contaminate the water or afford a banquet for flies, or thoroughly disinfected with a strong solution of bichloride of mercury or chloride of lime, or some good disinfectant.

Now, in regard to the medicinal treatment, dysentery should receive prompt and radical treatment from the beginning; however, I do not believe in the shotgun diarrhea mixtures that are given by some. Only such drugs should be used as there are special indications for. My first intention when called in to see a case of dysentery, is to unload the bowels as completely as possible, with some good cathartic, which will produce the least peristalsis and irritation. And I know of nothing that has served me better than castor oil and syrup rhubarb, equal parts, of this I give a teaspoonful every two hours to a child a year old until the bowels move freely and more natural. This has a two-fold effect, that of thoroughly cleansing out the bowel and an astringent after-effect, after we have swept out the bowels. this is often sufficient in mild cases to control the hemorrhage, and about all we have to do is to give some good intestinal antiseptic such as bismuth in some form; I prefer the subgalate, being a better astringent than the other bismuth preparations; but in the more severe cases we will have to resort to some stronger astringents, such as tannic acid, tannalbin, or opium in some form, the opium quiets the peristalsis and puts the bowel at rest also acting as an astringent lessening the griping and tenesmus, one very essential thing in all cases is to keep the patient as quiet as possible in bed, in severe cases I always employ enemas which to my opinion is one of the most direct ways of getting at the trouble using a soft rubber tube well annointed, for these I use an emulsion of slipperyelm bark or starch water which serves to coat over the bowel and is very soothing, quieting the tenesmus and griping.

Now in regard to the diet, it should be light and as nutritious as possible, something that will leave as little residue as possible to pass over the inflamed bowel during convalescence. stimulants should be used if there is much prostration and emaciation and tonics such

as iron in some form or syrup lactophosphates of calcium, after the stools have become quiet normal and appetite better, cod liver oil may be given in some form which is palatable, this often prevents many serious complications.

OUR ARMOR-PLATE.*

By E. DUFF BURNETT, Anchorage.

Uncle Sam is considering the idea of making his own armor-plate, and thereby escape the iron-clad prices of that mighty octopus, the Steel Trust.

We doctors should catch a ray of inspiration from this idea and plan to beat the "Steel Trust" that pinches us day by day and year by year.

Every one of us believes in altruism and the survival of the fittest. Then it behooves every man to become eminently fit for the job he sets himself over, and to recognize the brotherhood of man and respond to its every day mandates.

But why the County Medical Society?

The Society is an arsenal. Here we bring together our best skill, experience and training, and pool the same for the highest possible service and aid to humanity. "No man liveth unto himself." In fostering the interests and guarding the every day life of our confere, we are calling down the benedictions of heaven upon him and the helpless public we strive so faithfully to serve. Can any physician be so reckless with his trust that he will fail to recognize and seize every opportunity to better himself for his high calling?

The day is coming when the public—perhaps that day is at hand—shall ask, why does not Dr. Slow attend the county medical society, or the state association? Every family has a divine right to expect and demand that the physician be the best informed, most aggressive and best equipped man in the community.

Our society can be made a clearing house of ideas and experiences. It should be a gymnasium for mental and moral development. It must become a research laboratory for the discovery and dissemination of new ideas and true scientific facts. It may become a library for reference, comparison and logical conclusions. It will become a veritable post-graduate school in preventive and clinical medicine and surgery if every man will add his talent and time to its growth. And above all let us erect here an hallowed altar whereupon may be laid our differences, our joys, our sorrows, and mutual benefit as well as our experience and knowledge.

My fellow co-workers. I do not believe we

are doing our best. We are all in the same boat and are culpable. We fail to give individual cases enough attention and study. We depend too much on what we did yesterday etc. We are not in close touch and sympathy for every man's opinion. We are afraid to express an opinion for fear of being ridiculed—let him that is without fault or mistake in his work cast the first stone. We are too ready to call a city man for help. We do not charge enough for our time and services, and therefore are handicapped in our equipment. Our Armor-Plate is not puncture-proof.

Take a look at the practical side. Instead of "How old is Ann?" there presents itself the unsolved problem of how much money does it take to buy bread, rent, clothes, insurance, equipment and enough style to be a leader in the community?

Food stuff, clothes, household necessities and all commodities have advanced from 20 per cent to 50 per cent in the past 20 years, and the family medicine man still charges \$1.00 for a local visit, \$1.50 to ride four or five miles, and gives his skill, advice and services at his office free gratis.

The day laborer gets 100 per cent. more for his work to-day than he did 20 years ago, but the modest, timid, spineless physician is afraid to advance his fees so that he can keep step with the day and make a decent living. Medical science and efficiency have advanced sufficiently in the past decade to warrant an advance of 100 per cent. in fees. Our predicament comes from our inertia. We are courting paralysis because of inaction. The public will do whatever we say if our verdict be a unit—unanimous.

What should constitute the average financial needs of the average physician in our part of the world?

Food stuff	\$300.00	per annum
Rents	200.00	per annum
Laundry	100.00	per annum
Clothing	125.00	per annum
Rig, etc	200.00	per annum
Insurance	100.00	per annum
Supplies	100.00	per annum
Telephones	50.00	per annum
Incidentals	50.00	per annum
Self improvement and trip	75.00	per annum
Benevolence	50.00	per annum
New supplies, furnishings..	150.00	per annum
<hr/>		
Total	\$1500.00	per annum
Bad bills	150.00	
<hr/>		
Total	\$1650.00	

The above table is based on the expectation that there be a family of two, and that the wife do her own cooking and household work,

*Read before the Oldham County Medical Society.

and that the husband groom his horse and hoe his garden and do the necessary chores. Included in the self-improvement items are the following: State Medical Journal; National Medical Journal; three new medical books; three new books on other subjects; daily newspaper; county newspaper, literary magazine; religious paper; a trip to the state medical society and one other brief vacation for husband and wife.

The average yearly income of a doctor of medicine in this great republic is less than \$800.00 per annum.

Something must be done to square our income with the stern necessities of the day and the glorious advance of 20th century medicine. The surgeon does not fail to fetch the price up to his work—and we should lift our hats to him!

Now let us dissect this "Steal Trust" and, too, build here our impregnable armor-plate; and thereby render ourself immune to the poisonous fangs of this monster. Note his many arms!

1. Low fees.
2. Lack of scientific knowledge.
3. Indifference and carelessness.
4. Fighting the other doctor. (Malpractice suits).
5. Poor equipment.
6. Dead Beat bills.
7. Immorality.
8. Lack of unity and false ideals.

Here in this society we shall become better physicians, truer friends, closer students, more accurate diagnosticians, more skillful surgeons, and be of mutual aid and encouragement. Here we shall catch the inspiration that will give a greater joy in services and greater love for suffering mortals.

Here shall we forget the armor-plate that will be a defense against poverty, malice and low aim. We shall develop the best that is in us and give a full service for the public weal. And here, too, we shall set up a training school in sanitation, hygiene and prophylaxis for our neighbors and mankind. Shall we not rally to the call of the weak for protection against the mighty forces of infection and death? Methinks I see here erected a glorious monument, more lasting than marble and more precious than fine gold that shall become a rich heritage for generations yet unborn that shall rise up to call us blessed.

Leprosy.—Treatment. Salvarsan used in five cases. Caused clinical improvement, cases showing partial or complete resolution of nodules of tissue examined. Effect is not specific or permanent.—Wellman.

MEDICAL PROGRESS IN THE PAST THIRTY YEARS.*

By ROBERT LOCKHART, Owensboro.

In choosing this subject I am fully aware of the fact that it cannot be adequately treated in the limits of a paper or even in many volumes. Dr. August Schachner of Louisville in a recent publication stated that medicine had made more progress in the past thirty years than it had in the last three thousand years. Probably the most brilliant advances or at least those that have gained the most notoriety have been made in the domain of surgery. However, these if I mention at all I will only mention casually. This paper will be largely devoted to a discussion of the wonderful results that have been achieved in discovering the causation of disease, its proper treatment and above all, its prevention. Also a short space will be given to the changes which have taken place in the physician himself, in his ideals and in his profession, its ethics and its organization.

The first great change we notice in the practice of medicine is in drugs, their form, their quality and their administration. Formerly it was taken for granted, especially by the laity, that drugs were not effective unless they looked bad and dangerous, tasted worse than they looked, nauseated the stomach, worked the liver vigorously, caused headache, ringing in the ears, and various other unpleasant symptoms. Frequently thirty years ago the physician in the country districts and in the smaller towns and villages was forced to do his own dispensing, making up his own pills and decoctions and seldom failing to give the patient enough doses and plenty of physic in each dose. To-day there is hardly a village of a hundred souls that does not boast at least one drug store with a duly licensed pharmacist. A practitioner who dispenses at the present time does so because he wants to, not because he has to. In this he is encouraged by the large drug houses in the big commercial centers, who send their representatives to his door and they vie with each other in presenting for his approval and selection drugs, beautiful in color, pleasant to the taste, standardized, of uniform strength, approved by the National Council of Medicine and Pharmacy. The other great advance in drugs is in their method of administration. It used to be that the poor old stomach had to be dosed, no matter what the trouble was nor how unfit the stomach was to absorb even food, not to mention a nauseating, irritating drug.

To-day when we know that the stomach will not tolerate a drug or we want to have a

*Read before the Daviess County Medical Society.

medicine quickly taken up in the system we make a solution of the alkaloid or active principle of the drug we wish to employ, draw this solution up into a hypodermic syringe and quickly inject it beneath the skin. To-day a practitioner of medicine who did not have a hypo would be a curiosity.

Again when we want a patient to have a larger amount of medicine and want it taken up in the shortest possible time, in other words, want it in the blood at the earliest possible moment, we inject the solution directly into the patient's vein. The various antitoxins, serums and vaccines are often given this way. Meningitis serum is injected directly into the spinal canal after an equal amount of spinal fluid has been withdrawn. This serum has also been injected directly into the ventricles of the brain after a portion of the skull has been removed by the trephine.

The most wonderful advance that has been made in medicine, however, is in our knowledge of the causation, the treatment and prevention of disease. In the first place we have discovered that most of the minor aches and ills we have are our own fault. Our systems are poisoned by foul, stale air, by noxious gases, by smoke, by eye strain, by ear strain, by neglected colds, by fatigue, by worry, by loss of sleep, and by intoxications of different kinds, as food, alcohol, and lead. I mention food intoxication first as more people are guilty of the indiscretion of overeating than any other.

The one class of diseases in which modern medicine has made the greatest progress is in those which are classed as infectious. To illustrate the progress that has been made in the classification of diseases and the recognition of their causes, we find that Dr. Bartholow in the third edition of his book on the practice of medicine published in 1886 does not classify any of the diseases as infectious, making only two divisions—local and constitutional diseases. Under constitutional diseases he has eruptive fevers, such as smallpox, measles, scarlet fever, and erysipelas. Under the head of fevers he classifies typhoid fever, typhus fever, relapsing fever, yellow fever, dengue. Again under this same head he classifies miasmatic diseases as cholera, diphtheria, cerebro-spinal meningitis, influenza, hay fever, whooping cough, mumps, malaria, intermittent and remittent fevers. Scrofula, acute miliary tuberculosis, and acute rheumatism are spoken of as disorders of nutrition. Hydrophobia is described as an animal poison. In this day all these diseases are classified in modern text books as infectious. Tetanus, or lockjaw, the most dreaded of all infectious diseases, Dr. Bartholow classifies as

a cerebro-spinal neurosis, and tuberculosis—the most prevalent of all infectious diseases—he describes as a local disease according to the organ it affects.

It is in the recognition of the fact that most diseases are infectious, that is, caused by the entrance into the body of disease producing germs and their multiplying therein, that modern medicine is fast getting to be on a scientific basis, not only with respect to the treatment and cure of disease, but what is of infinitely more importance, the prevention thereof. To make plain how much more scientific and rational modern treatment has become, we will contrast the treatment of diphtheria thirty years ago and to-day. At that time the generally accepted theory was that diphtheria was a local infection followed by a systemic poisoning. Many men advocated destruction of the false membrane in the throat by the strongest cauterizing agent, thus hoping to prevent the infection from going through the system. They did not know as we do now, that the toxins or poisons of diphtheria are being spread all through the system of the affected individual during the incubation period or development period of the disease.

This being true, the cauterization of the throat was an utterly illogical procedure. Some twenty years ago Von Bering of Germany solved the problem of properly combating the toxins of diphtheria and by so doing reduced the mortality of the disease some seventy-five per cent. Diphtheria antitoxin when injected into the body of a person suffering from diphtheria promptly enters the blood stream and not only itself fights the toxins of the disease but induces the formation of other antitoxins or antibodies in the blood itself, which in their turn destroy the poisons of the infection. Here let me say, other things being equal, that when antitoxin fails to cure a case of diphtheria, it is from one of two reasons, or for both reasons, namely, either the remedy was not administered early enough in the disease or the dose was too small. Not only does this diphtheria antitoxin cure the disease after it has developed, but it will also prevent a person who has been exposed to the disease from contracting it. Also it requires a very small dose of the remedy to assure the exposed person of immunity to the disease, thus illustrating that old proverb, "A stitch in time saves nine."

In many other infectious diseases although treatment by antitoxins or vaccination or the infecting germ is known the results of serums has not been so brilliant as in the case of diphtheria. In 1882 Robert Koch discovered that tuberculosis was caused by the tubercle bacilli—a small rod-shaped, microscop-

ical body. Soon after its discovery he began the preparation of a serum which he termed tuberculin. Neither this tuberculin nor any other tuberculin or modification thereof has been successful in the cure of tuberculosis. The consensus of opinion of medical men seems to be that tuberculin as a remedial agent is of very little value, although a few observers have reported good results from its use. Countless scientific researches are being made to-day to discover a specific for tuberculosis, but the goal as yet seems afar off.

Most of the other serums and vaccines have more value as a means of prevention than a means of cure. Lockjaw may be frequently prevented by the use of tetanus antitoxin. While the mortality from hydrophobia has been reduced to about three per cent. by the Pasteur method of vaccination. This, however, must be used before the development of the disease, immediately after the patient has been bitten by the rabid animal, or the results are not as favorable.

Many efforts have been made to discover a specific germ as the cause of inflammatory rheumatism, but so far without very favorable results. A number of observers have discovered a germ in the affected joints which resembles the streptococcus, and claim that this is the cause of rheumatism. The fact that acute articular rheumatism is so frequently associated with attacks of tonsillitis, either occurring just before, just after, or during an attack of rheumatism, and that the streptococcus pyogenes is frequently discovered in the secretions from the tonsils would indicate that rheumatism is an infectious disease and due to one or more of the pus producing organisms. A number of serums and vaccines have been advocated and used for this affection, but have not produced much better results than are gained by the old lines of treatment.

The greatest success which has been made in a vaccine since Jenner rendered smallpox a controllable disease by the use of his vaccine which was obtained from the kind eyed cow, is the typhoid vaccine. Its use has been made compulsory in the U. S. Army for the past two and one-half years. In the year 1913 there were 90,000 men in the U. S. Army, all of whom had received injections of the typhoid vaccine. Out of this number there were three cases of typhoid fever and no deaths.

Another great advance which has been made is the discovery that yellow fever and malaria are transmitted by two varieties of mosquitoes, the former by the stegomyia, the latter by the anopheles. The life, habits, and dwelling places of these dangerous insects have been carefully studied and the best methods of killing them and preventing their continu-

ed increase and activity have been discovered.

There is one disease which so far has completely baffled the efforts of the medical investigators, either to find the cause of or to suggest a successful treatment for. That is the dread disease cancer. The surgeon in this instance is the best friend the cancerous patient has. Early diagnosis and prompt operation, that is a complete removal of the cancerous growth, is the only chance the sufferer has to recover from his dread malady or to prolong his life.

In addition to the progress that has been made in the treatment of disease by drugs, and various antibodies, as vaccines, serums, antitoxins, there is yet another method of treatment which is becoming more popular each year and that is organotherapy, or the treatment of disease by extracts or juices, or secretions obtained from the organs of animals from whom these organs are usually taken are the meekest, namely, the sheep and the cow. The three preparations which have been most successfully employed in the past few years are first the thyroid extract and sometimes in obesity, second, adrenalin, a preparation made from the suprarenal capsule, and used very successfully in the prevention and arrest of hemorrhage and shock, pituitrin, made from the posterior lobe of the hypophysis cerebri, and having very much the same effect, only a more sustained one, as adrenalin. All of these bodies are very closely related to the sympathetic nervous system and undoubtedly furnish it great assistance in its work of keeping up the metabolism and nutrition of the body. Many scientific investigators are now employed in testing out different organs, as to their value as remedial agents. This may be the line upon which we will have to proceed if we ever find a specific for cancer.

Possibly the most definite progress which has been made in the practice of medicine in the last 20 or 30 years has been in the organization of the physicians. The A. M. A. ever since its organization has been an active and positive agent for the uplift and betterment of the profession, and for the instruction and protection of the public. Through the influence of the A. M. A. the number of medical schools has been materially reduced, their scholastic standing has been raised, the time for graduation has been changed from three to four years, and they have also been classified accordingly to their ability and facility to turn out the most modern and best equipped graduate of medicine. As a consequence we have fewer and more capable physicians. Also the A. M. A. has done a great work by establishing the Council of Medicine, and Pharmacy. The function of this committee

is to chemically and otherwise examine patent and proprietary preparations and to report on their efficiency to do what they claim to do.

One other change and I am through. This is the rise of specialism. We have specialists for almost every organ and function of the body. While as can be readily seen, this is a good thing for the laity as they can thus have every ailment readily and properly treated by the person best qualified to do it, yet it has its drawbacks. The principal thing we regret to see is the injury it is doing the income of the general practitioner. Internal medicine which for years was his principal source of income is now cut up into specialties. We have the gastrologist and the pathologist, thus depriving him of the alimentary canal with the exception of the esophagus. Then the chest specialist deprives him of the lungs and heart. The oculist, aurist, rhinologist, neurologists, alienists take the head and everything it contains away from the general practitioner. The pediatricists separate him from the children. The gynecologist will not let him treat the women. Then osteopathy, chiropractic, x-rays, radium, electricity, Christian science and the drug clerks get any body else that is loose. What can the poor man do? Either continue to serve as a guide post, or turn into a specialist himself. Certainly the general practitioner is now the hardest worked and poorest paid member of the medical profession. However if we are to believe the words of one of the most eminent surgeons in America, Dr. John B. Murry, of Chicago, ex-president of the A. M. A., the future of the general practitioner is very bright. Dr. Murry states that the physician of the next decade will undoubtedly make his name and fame in solving the numerous problems of internal medicine. This being the case the general practitioner will soon begin to receive more of his reward here and less of it hereafter.

In conclusion permit me to say that the future of medicine was never so bright as it is to-day. Never has there been so widespread an interest among the educated classes in medicine as there is at the present time. Never has there been so many organizations among the laity to aid in the great work of preventing and curing disease. The several states of the union have established State Boards of Health which are of the greatest importance and help to the practicing physician and the public, while the army and navy surgeons are leading the way in their study and solving of the problems of preventive medicine. Although to be a member of the medical profession of to-day, to live up to the high standard of ethics prescribed by its great organization, the A. M. A. to be alive to

the wonderful progress that is constantly being made in the science and art of medicine is one of the greatest privileges and one of the highest honors which a man can gain.

THE MEDICAL DOXOLOGY.*

By J. A. FREEMAN, Crestwood.

I wish to express my pleasure in being here to-night, and having been placed on the program with the good fellows who have preceded me and whose speeches have been so enjoyable.

Webster, defines the word "doxology" in the words, *opinion, glory, praise*, and adds that it is usually applied to a short song of praise to God. Therefore, when you sing the doxology, you express your opinion and give glory and praise.

My opinion of the medical profession is a private matter. My opinion of the men and women, too, of the profession, is grand and exalted. I know men in our rank who are as proud as Lucifer, as bold as a lion and yet as gentle as a woman, men of great wisdom, high character, honest intentions and ideal lives. Men who would give honor and uplift to any calling to which they might belong, and I believe that if every good doctor was also a good Elk, they would be absolutely the *Best people on earth*.

AS TO GLORY.

We can proudly claim our share, brought to us by and through McDowell, Dudley and Pasteur and many other noble souls who have given their lives to and for the medical profession.

AS TO PRAISE.

That is scant. There is little praise for the individual or the mass of medical men. In fact, there is more praise in the profession that's out of it.

I mean by that, that one good doctor will praise another doctor, far more frequently than any layman and do it honestly and with the best of sentiment.

Just now and then you will find an honest soul who will praise the doctor who has served him well, but they are few and as hard to find as gems in the depth of the ocean.

THE DOXOLOGY.

The doxology comes at the end of things, at the end of the sermon, and as my speech comes at the end of this royal feast, and it seems to me that the Creator had an eye to the end of things. There was an end to Creation itself, and when it was finished he rested from all his work.

There is an end to the verse, an end to the chapter, an end to the book.

*Read at the Jubilee Supper to Dr. J. H. Speer, Oldham County Medical Society.

There was an end to Napoeleon's dream of empire. There was an end even to the beautiful sermon on the mount. There was an end to the material glory of Solomon's Temple, and an end to the still more glorious reign of King Solomon himself.

And I believe that the angels and the arch-angels and the redeemed of men will sing the doxology at the end of time.

There will also be an end to the arduous practice of medicine, and the chosen few then left will indeed and in truth sing the doxology of medicine.

It will come through higher education, through sanitation, through preventive medicine, through the alkaloidal and serum treatment of diseases.

And way along down the aisles of time, the anxiety, the dread, and the trouble of the practice of medicine will grow lighter and lighter until the advent of the glorious dawn of the millenium.

When there will be no more sickness and no more death.

CANCER OF THE BREAST, WITH PARTICULAR REFERENCE TO CERTAIN PHASES OF DIAGNOSIS.*

By NEWTON EVANS, Murray.

The fact that the mortality from cancer is so frightful and that it is admittedly increasing rapidly in frequency makes a study of its diagnosis and the best methods of management most important. In this country in 1909 death from cancer held seventh place in importance in the vital statistics. And in all deaths after the age of 40 it holds second place only to tuberculosis, in fact almost equals it.

At present it is admitted that surgery is still our only hope in cancer of the breast. That being true the solution of the problem of saving the greatest number of lives depends on, first: early diagnosis; second, early operation, and third, correct operative procedure. In the past five years there has been practically no advancement in operative technic in this condition and surgeons do not expect much improvement in that field. Any improvement then in our death rate in this condition must depend on more general diffusion of information as to the right management of cancer of the breast, not only among the laity including particularly the cancer victims themselves, but especially among the mass of general practitioners who first see the greatest number of these patients.

Recent studies of the number of cures following breast operations indicate that although there has been no improvement in the technique in the last five years yet there has been a very appreciable improvement in results during that time. Bloodgood of Baltimore has published during the last few months figures based on the records of 681 cases of cancer of the breast from the J. H. H. laboratory records showing what I take to be the most favorable results ever published as to cures following operations for breast cancer; showing a total of 42% of five year cures of all operated cases as compared with 35% of cures in the statistics published five years ago, and this too in the face of the fact that during this later period there was a much smaller number of cases rejected as inoperable. In the figures five years ago there were 27.5% of inoperable cases while in the present series there were only 18%. The figures show clearly that the increase in proportion of operative cures is due to the general tendency of these cases to be operated upon early before the condition becomes hopelessly inoperable.

The great importance of early diagnosis and early operation is emphasized by the fact that, as said by Judd in 1909, 85% of all tumors in the woman's breast are malignant to begin with and one-half of the remaining 15% will become malignant if not removed. The same lesson is taught most emphatically by the figures which show the difference in results between operations done *early* and those done late. Complete or radical operations on early cases in Bloodgood's series show a cure of 93%. Similar operations on *late* cases show 36% cured. By early cases he means tumors which have not yet caused retraction of the nipple or adhesions to the skin, and so cannot be recognized as cancers except by removal of the tumor and pathological examination; while the late cases are those which can be recognized as malignant before operation is undertaken, by the characteristic retraction of the nipple or by adherence to the skin.

What then in the light of these facts is our duty with reference to all lumps in the female breast? Evidently it is to advise their immediate removal and examination, and if pathological examination shows them to be cancer then to perform the radical operation. If examination shows it to be benign and not malignant then simple removal is all that is necessary.

What then must be our opinion of the physician who will advise a patient who comes with a small lump in the breast to wait until it develops before having anything done? We must conclude that he is either ignorant of these important facts just recited

*Read at the West Tennessee Medical and Surgical Association, Union City, Tenn., May 14-15, 1914.

or that he lacks the courage of his convictions. The statistics from the Mayo clinic with reference to the comparative results of operation in early and late cases are in accord with those from the Johns Hopkins Hospital. In the cases for the last five year period reported the cures from early operation are 85% while from late operations they are only 25%. The Mayos' basis of classification, however, is a little different from that of Bloodgood. They classify all cases as early in which there has not yet appeared any metastasis in the axillary lymph nodes as indicated by microscopic examination by the pathologist. The late cases are those in which cancer metastasis are found at the time of operation.

And still more instructive, if possible, are the figures collected from the records of the Massachusetts General Hospital for the cases operated on during the period of ten years from 1894 to 1904. During the first five years the total of five year cures was 16%. During the last five year period the total cures equal 26%, the difference in results apparently being due to difference in technique; in the latter period a much larger proportion of radical or complete operations having been the rule. One of the conclusions of this report is particularly significant, viz., that incomplete operations on the early cases yielded more cures than radical operations on cases which were well advanced.

DIAGNOSIS.

As a working basis all cases of carcinoma of the breast which come to the surgeon may be classified into three general groups. First, early cases, in which there is the presence of a tumor which by physical examination cannot be said positively to be a cancer, and whose positive diagnosis depends upon an examination of a section of the tumor itself. Second, late cases in which the diagnosis is evident from the external appearance of the breast, the skin being adherent or the nipple retracted. Here no examination of the tumor in section is necessary. Third: The late inoperable cases, in which secondary cancers are present in other organs, or which have spread so far by local metastasis that a complete removal is impossible.

At this time we are particularly interested in the first of these three classes, those in which the positive diagnosis can only be made by examination of the tumor itself, and furthermore it is only in this group of cases that we can hope to cure more than a small proportion. What is the ideal procedure in these early doubtful cases of cancer? It is not good surgery of course in these doubtful cases to look upon them all as benign tumors, or to advise waiting till they develop definite malignant characteristics before doing anything.

It is not good surgery to remove the tumor itself from the breast or even to remove the entire breast and then to hope the condition is cured, doing nothing more. It is not good surgery to remove the tumor from the breast, close up the wound and send the tumor to the pathologist, and after waiting one or several days, then, in case the pathologist reports the presence of cancer to again operate and do a radical operation, removing breast, axillary glands, etc. Halstead has shown plainly that the prognosis for ultimate recovery is much less favorable after a procedure of this kind than when the entire operation has been done at one time.

The ideal procedure and only right thing to do in the light of our present knowledge, is in every case where the diagnosis is doubtful to make an incision and carefully excise the tumor giving it a wide margin of normal tissue for safety. Then after the tumor is removed, with the patient still under the anesthetic, submit the tumor to careful examination, which should mean in every case a microscopic examination. There are some surgeons and surgical pathologists who are competent to distinguish most of the malignant tumors by a naked eye examination of the cut surface of such a tumor, and there are some surgeons who depend upon this method alone, but in my mind there is no question but that the microscopic test is more accurate in the hands of a competent pathologist equipped with the best means of making frozen sections and of rapid staining.

Dr. Judd, of the Mayo clinic, says, with reference to this point that "so far as we know at the present time a differentiation other than microscopic cannot be made between a benign tumor and a very early malignant one." "Quite often the tumor may be diagnosed from cross section, but we are never justified in disregarding the microscopic examination."

So far as I know this rapid tissue diagnosis is most effectively and systematically used at the Mayo clinic, where practically all tissue removed at operation is immediately examined by making sections with the freezing microtome and then staining them with polychrome methylene blue, and immediately subjecting them to microscopic examination. The whole procedure requires only a very few minutes at the most. This is a method which can be used and which should be used in every hospital where operations are done. Of course it involves the necessity of having a really competent pathologist to do the work; because a diagnosis of a tissue section by a man who is not competent is much worse than not having it at all, for it may lead to a failure on the part of the surgeon to use his own judgment

and other means of diagnosis as he otherwise might do if he were not depending upon the microscope. If, then the examination of the tumor section shows that it is a benign growth the wound can be immediately closed and the operation finished. The removal of the tumor alone is adequate. If on the other hand the examination reveals the presence of cancer, the operation must be continued. A complete radical operation must be done in every case. Probably the best operative procedure is the Halstead operation which includes removing with the breast, a large area of skin, a much larger one of the superficial fascia with its fat, the pectoral fascia, both pectoral muscles and all of the gland bearing tissue in the axilla. Dr. Murphy says he has discarded the Halstead operation, as he believes the removal of the pectoral muscles is unnecessary, only removing sufficient of the muscular tissue to make it possible to dissect out all of the axillary tissue containing the lymph glands. In the early cases it may possibly be true that the removal of the pectoral muscles is not essential provided all of the other structures are removed. It seems to me wiser to include the pectoral muscles in all operations on the late cases. Dr. Judd says that in several late cases they have demonstrated the presence of cancer metastasis in the lymphatics within the pectoral muscles.

In the management of the class of breast changes in which the tumor present is not a distinct small tumor but a more diffuse mass in the breast not readily delimited from the surrounding normal tissue it is best to remove the entire breast (rather than to try to dissect out the diseased portion) and then to examine the most suspicious portion for cancer. However, in this class of cases another alternative is to dissect down to the diseased portion and then without removing the entire mass to excise a small wedge shaped portion of the effected tissue and make a microscopic section of this. If this method is followed it is well, as recommended by Bloodgood, to cauterize that portion of the incision which involves the diseased tissue, either with phenol or by excising the fragment for examination with the actual cautery; this of course to prevent any possible dissemination of cancer cells into the circulation. The result of this pathological examination will then determine the subsequent management of the tumor, as described above. This diffuse involvement of the breast tissue is most frequently seen in the so-called "abnormal involution or chronic cystic mastitis" which by the way is the most frequent pathological condition seen in the female breast outside of cancer itself.

Of course it must be admitted that even after removal of the tumor from the breast

the pathologist or surgeon may still be in doubt as to the presence of malignancy. Then the best procedure will be to treat it as an early malignancy. All pathologists admit the existence of breast lesions in which the presence or absence of malignancy can not be positively affirmed, although their proportion is very small.

Since we have begun the use of the rapid tissue diagnosis method in our small hospital and have made it an invariable rule to examine all doubtful breast tumors before completing the operation we have had a number of cases which would have been subjected to the radical operation unnecessarily had it not been for the tissue diagnosis, and on the other hand there have been cases which would have had simple removal of the tumor had not the microscope indicated that the complete operation was necessary.

Dr. Wilson, of Rochester, says with reference to this point "Indeed it would seem incumbent upon every hospital which maintains an operating room to maintain also a laboratory for pathological tissue diagnosis," and I think his position is well taken.

The treatment of our second general group, those in which the diagnosis of cancer is plain without any pathological examination of the tumor, is complete radical operation at the earliest possible time. In this group must be included the cases of Paget's disease, epithelioma of the nipple, and in fact chronic ulceration of the nipple practically never occurs except in carcinoma.

It should be pointed out in this connection that the radical operation for breast cancer practically without danger to life when done by competent men. The operative death rate is practically nil.

In our third general group are those cases of breast cancer where the radical operation will give no hope of permanent cure. Some of the more important findings which would lead us to decide against operation are the presence of unmistakable signs of the involvement of some distant structure, such as certain bones, in which the X-ray is of much assistance in determining the presence. The liver is also frequently involved extensively in the more advanced cases, and at times other organs.

Involvement of the supraclavicular lymph nodes should usually be taken as a contraindication to operation; but simply enlargement of these nodes such as to make them palpable is not incontestable evidence of cancer metastasis in them. In such cases some of these enlarged glands should be removed under local anesthesia as a preliminary operation and the presence or absence of malignancy determined by microscopic examination.

If local metastasis of a breast cancer has become so extensive as to fix the tumor to the chest wall, then operation is hopeless, as its complete removal will be impossible, and the lymphatic system will be found extensively involved. In certain forms the skin becomes so widely involved as to make complete removal of the tumor impracticable.

On the other hand extensive ulceration of a breast cancer is not necessarily a contraindication if evidences of extension to the other tissues here mentioned is absent.

There is one type of breast tumor which must be borne in mind in the diagnosis of cancer of the breast. I refer to the relatively rare types of myxoma and myxo-sarcoma which are seen most frequently in younger women and which usually have a rapid growth and often becomes very large in size. These myxo-sarcomas are relatively non-malignant in character and in common with other sarcomas do not form metastasis by the lymphatics. Consequently when removed by operation it is not necessary to make the complete operation indicated for epithelial cancer. Whenever, therefore, from the size of the tumor and age of the patient it is suspected that we may be dealing with this type of tumor it is imperative that pathological examination of a section of the tumor be made before proceeding with a radical operation.

UNCINARIASIS, OR HOOKWORM DISEASE.*

By J. A. FRANTZ, Russell.

Uncinariasis, or hookworm disease, is a disease characterized by symptoms which are caused by the presence in the intestinal canal of the worms *ankylostoma duodenalis* and *uncinariasis americana*, which if not identical, at least closely resemble each other. They belong to the class of nematodes, in which are included *ascarius lumbricoides*, *oxyuris vermicularis* and *trichinae*.

Hookworm disease is found in practically all the tropical and semi-tropical countries. It has been comparatively recent that the frequency of unciariasis has been recognized, although the symptoms produced by them have been considered as a clinical entity for over a century. This disease is not new; it is only newly understood. The symptoms of the disease were described in the records of the Egyptian Empire, but its cause was unknown. Early in the nineteenth century a special form of anemia was recognized as affecting the miners of Hungary. In 1838 Dubini found *ankylostoma* in the intestines of a girl who had died of progressive anemia. In 1851 Griesinger declared that this parasite was the

cause of the Egyptian chlorosis, but the clinical importance of the parasite was not definitely settled until 1882. Peronito showed that the epidemic of so-called miner's anemia, which occurred during the building of St. Gothard tunnel was due to the *ankylostoma*. Since the occupation of Porto Rico by the American about sixteen years ago, the disease has been thoroughly studied by American physicians, especially by Drs. Ashford, King and Stiles. These men have proved the great prevalence of the disease in the southern part of the United States. The male worm is about 11 m.m. in length and about 5 m.m. in width. The female is about 15 m.m. in length and about 1 m.m. broad. It is found most abundantly in the jejunum, but it may be found in the duodenum and ileum. It may be firmly attached to the mucus membranes or may be free in the intestinal canal. The eggs are passed in large numbers with the feces, and under favorable conditions may retain their vitality for a long time. These favorable conditions include, warmth, moisture and darkness. Sunshine and the incidental dryness are destructive to them. After passing from the body of the host they rapidly become scattered about. Their most common attack on the human subject is through the feet. Both adults and children who run about barefooted in places where the disease is endemic suffer from a dermatitis, which is caused by the action of the ova, or eggs on the skin. They first produce a dermatitis on the skin and next an eruption of vesicles which are liable to become infected by various bacteria producing pustules and ulcers of varying depth, which may persist for a long time, and which when healed usually leave discolorations. The ova pass through the skin by which they are carried to the lungs; here they escape into the bronchioles, thence to the larynx and into the throat, from which they are swallowed. The eruption is known as ground itch. The disease may be brought on by the swallowing of the larvae, incidental to unclean habits, the food being infected by unclean hands, or by drinking water containing the larvae, but it is considered that the round-about route of infection through the skin is the most common method.

SYMPTOMS.

The symptoms of this disease differ in severity with the general health of the individual infected, and with the number of parasites in the intestinal canal, if in scanty numbers, the evidence of their action are few, but if in multitudes their destructive action on the blood is excessive. The mild cases are characterized by pain and uneasiness in the abdomen. These symptoms are commonly attributed to indigestion, and rather apt to be

*Read before the Greenup County Medical Society.

more prominent on the right side of the abdomen. They may be accompanied by tenderness in that region. The pains are sometimes increased and sometimes relieved by taking food. The appetite in some cases is diminished and in some cases increased. There may be headache and dizziness and there is usually indisposition to exertion, either mental or physical. As the case advances the pain in the abdomen may be more pronounced, the headache more severe and there is dizziness and often tinnitus aurium. The mucous membranes and the conjunctiva are pale, the appetite is impaired and there may be nausea and vomiting. Breathlessness on exertion is common. The patient complains of fatigue and there may be fever. The anemia is great and becomes more striking the longer the disease exists. Edema of the feet and ankles is common and sometimes there is general anasarca. The pulse is weak and compressible and there may be pain in the precordial region. Dimness of the sight is common and the pupils may be dilated. Often there is sleeplessness. The patient's strength has been sapped, his physical and intellectual growth stunted; children, once bright and well advanced in their school work, lose their zeal and mental alertness, they fall behind in their struggle with their healthier classmates, and finally discouraged, and more than likely abused, they give up in despair.

DIAGNOSIS.

The examination of the feces is of great importance, both from a diagnostic and therapeutic point of view, while in regions where the disease is endemic the general symptoms especially the anemia and the indisposition to exertion may lead to a presumptive diagnosis, which is generally correct, but the only accurate diagnosis is based on finding the eggs or worms in the feces, and these should be carefully examined in every suspected case. After the treatment has been carried out the only way of definitely determining whether or not the cure is complete is by examining the feces and determining the absence of both worms and eggs.

TREATMENT.

The prophylactic treatment is of great importance, both to the individual and to the community. As we know the disease is spread by neglect in providing for suitable disposal of the discharges of the bowels. In warm climates where the disease prevails among the poor classes of society the method of sewerage employed in cities are unknown and the majority of people deposit their feces in whatever situation in field or forest, they may happen to be when the desire comes on them. When sanitary legislation reaches the

point that transmission of infectious disease by the feces is almost impossible there will be no further danger of the transmission of this disease to uninfected persons. This, of course, is an immense problem, but one which it seems very likely will have to be met sooner or later. The second point in prophylaxis is the prompt curing of all sufferers from the disease. When this has been accomplished, of course, the necessity of the first will be less urgent, but the carrying out of one proposal is almost as difficult as the other, and the first proposition is the most important, because the improper care of the feces results in transmission not only of this disease, but of several others. The individual prophylaxis to be observed by persons living in regions where the disease is endemic consists in the first place, of protecting the feet and limbs by wearing shoes that will keep the dirt and sand away from the skin. Of less importance but still also to be observed, are cleanliness of the hands, care in the preparation of food and avoid water which may be infected.

MEDICINAL TREATMENT.

Several drugs have been recommended in the treatment of this disease, the most important are turpentine, oil of eucalyptus, betanaphthol, and thymol. Of these the evidence is very strong that thymol is the most useful and safest, and is fairly entitled to be termed a specific. When this drug is used the patient should be prepared for the treatment by being compelled to fast during the whole of the previous day. The previous night he should receive a sufficient dose of magnesium sulphate to produce several watery movements. In the morning before any food has been taken the thymol may be administered. The dose may be divided into two or three parts, which may be taken at intervals of one or two hours. The whole amount administered in one day should be 3 grams. Two hours after the last dose another dose of magnesium sulphate should be given. It will be found that the thymol having attacked the worms has either destroyed them or at least lessened their vitality to such an extent that they have loosened their hold on the mucous membranes and a final dose of magnesium sulphate will carry them out of the intestines. It is important that the intestines should be empty as far as possible when the drug is taken and the preliminary dose of magnesium sulphate not only washes out the food debris, but also the mucus and the intestinal canal, in which many of the worms are often imbedded. The action of the drug is desired on the worms in the canal, therefore it is undesirable that the thymol should be absorbed, consequently no fatty acid, alcohol or oil

should be taken. Castor oil should not be given as a cathartic. The treatment should be repeated at intervals of five to seven days until examination of the feces shows entire absence of both eggs and worms. Finally it remains to speak of the treatment of the results of the infection. It is surprising with what rapidity patients begin to improve after the worms have been removed. However, the administration of iron hastens the recovery from the anemia. It makes little difference what form of iron is used. We may use fresh Bland pill or the reduced iron, or tincture of iron, or if a child we may use a tablet of saccharated oxide of iron, each three grains to chew up like candy.

GONORRHEAL ARTHRITIS AND TENOSYNOVITIS.*

(REPORT OF TWO CASES.)

By S. E. VIDT, Russell.

The relative frequency of gonorrhea in both male and female, and the rather frequent complications which arise during the course of this malady, leads me to report two cases of joint and tendon complications seen recently in female subjects; one of which was treated with the anti-gonococcal serum, and the other with the various drugs heretofore administered in this condition.

Case I. This patient was seen by me for the first time on the 9th day of January, presenting symptoms of a mild septicemia. From a rather hurriedly and incomplete examination, the following symptoms were elicited.

Had not been feeling well for the last three days; complained of a dull frontal headache; nausea; chilliness; uncomfortable feeling in lower abdomen with occasionally crampy pains; temperature 101.8 F.; pulse 130; moderate pain in left elbow joint, and severe pain in metacarpo-phalangeal joint of the right thumb. Upon inspection of left elbow joint there was slight redness over, and immediately surrounding the internal condyle; some tenderness on pressure; producing some pain on motion, but no appreciable edema. The metacarpo-phalangeal joint presented an altogether different picture. Here was present all the signs of a severe and active arthritis; redness, swelling severe pain, and tenderness. The patient dared not move the joint less she suffered excruciating pain. The patient was not questioned closely, put to bed, purged and given quinine and calcium sulphide, and informed to let me hear from her in the morning. I heard nothing more

from her then until the 21st day of January, when I was called to see her and herewith present the history complete.

Female, white, age 18, single, waitress.

Family History. Nothing of importance.

Personal History. With the exception of the diseases of childhood, always enjoyed good health. Menstruated at the age of 13, and regularly until October 28th, 1913, when they ceased. Developed gonorrhea seven weeks ago.

History of Present Illness. The onset which began January 9th has been described above. Upon my second visit, 12 days later, I found the following condition: The left elbow joint had cleared up. The right metacarpo-phalangeal joint, while it did not present the acuteness it did twelve days ago, presented an ugly picture. The wrist joint was now also involved, together with the left ankle joint. To place the hand in the most comfortable and painless position, the patient resorted to extreme flexion of both thumb and wrist, together with slight inward rotation. The left ankle joint was of recent involvement and showed considerable swelling and redness, and caused severe pain. The heart sounds were somewhat weak but no audible murmur. The patient was three months pregnant. In this case the serum was advised, but owing to the high price of the substance was unable to administer it.

External Treatment: The thumb and wrist joint were immobilized by placing the hand on a padded splint, and the infected areas covered with equal parts of mercurial and belladonna ointment and bandaged. This was applied daily. The ankle joint was likewise treated. Douches of potassium permanganate (1-2000) were given three times a day.

Internal Treatment: Calcium sulphide grs. 1-2, and quinine sulphate grs. 2, every three hours. Potassium iodide grs. 20 four times a day. In addition to this she received three doses of gonococcal vaccine (combined). This treatment was continued for 11 days, with practically no improvement in ankle joint. The wrist and metacarpo-phalangeal joint showed some slight improvement.

After the lapse of this time the patient decided to go to her home in an Ohio city where she was treated by a local physician. I heard from the case frequently, and only recently has she attempted to walk. From her description the ankle joint has very limited motion and the metacarpo-phalangeal joint is ankylosed.

Case II. Saw this patient for the first time April 21st and can report the following history:

Female, white, age 23, single, waitress.

Family History. Negative.

*Read before the Greenup County Medical Society.

Personal History. Had diseases common in infancy: Diphtheria twice. Developed gonorrhoea six weeks ago.

History Present Illness. Severe frontal headache for 24 hours and pain in the lower abdomen for several days. This was followed by nausea and vomiting; decided chill; temperature 103.5 and pulse 140. Complained of severe pain in region of cervical vertebra and of a general aching of extremities. At this time there was no joint nor tendon involvement, and the diagnosis was somewhat in doubt. That evening she vomited considerably and felt very chilly. Twenty-four hours later she complained of severe pain in first phalangeal joint of right index finger, and almost simultaneously with pain just above and anterior to the right ankle joint. The patient now seemed to feel some better, temperature 102 F, pulse 120; vomiting and chilliness had ceased. Upon close but careful questioning the diagnosis of a gonorrhoeal involvement was confirmed. The symptoms of the phalangeal joint grew rapidly in severity. Twenty-four hours after the onset of the trouble in the phalangeal joint, the extensor tendon of the index finger showed signs of involvement, together with the carpo-metacarpal joint of the thumb. The swelling in the tendon was rapid and of great magnitude and pain excruciating. Upon close inspection the involvement at the ankle joint seemed to be in the tendons of the *extensor longus digitorum*, and the carpo-metacarpal joint of the thumb was a peri-articular nature, but in neither of the two was the trouble very severe.

Two c.c. of anti-gonococcal serum was given intramuscularly, on April 25th, and this dose repeated on the 26th and 27th. On the 28th 1 c.c. of gonococcal vaccine was given to stimulate the passive immunity. This was followed with subsidence of ankle and thumb involvement, and also the pain in the region of the cervical vertebra. The tendon and joint of the index finger showed no improvement. Three days after the last dose of serum, patient had a slight chill, temperature 108.8, pulse 130 and her hand paining beyond endurance. The tendon and joint showed signs of suppuration. Under general anesthesia the joint and tendon sheath were opened and thoroughly irrigated with tincture iodine. Continuous bichloride (1-3000) irrigations were kept up for 48 hours and then hot boric acid compresses applied. The pus was examined microscopically and found to contain numerous gonococci. Serum was again administered; 2 c.c. daily for three consecutive days, and this followed by 1 c.c. of gonococcal vaccine. At this time my attention was called to a painful tumor about the size of one's fist, situated about the junction

of the lower with the middle third of the thigh externally, and the formation of a smaller one over the right tibialis anticus muscle about the middle third. I now decided to give the serum in larger doses. On the evening of May 4th. I administered 6 c.c. and repeated this dose the next morning. Twenty-four hours later 1 c.c. of gonococcal vaccine was given and this dose repeated in 48 hours. From this time on the patient made rapid improvement. Four days after the first dose of 6 c.c. of the serum, her temperature dropped to normal, pulse 80, and the recent tumefaction on the thigh had disappeared, and that in the tibialis anticus practically gone. Her appetite gradually increased and she left for her home May 18th. The hand is now entirely healed, with some stiffness resulting, but this I believe can finally be overcome by constant manipulation.

I may add that in addition to the serum, she received quinine, iodide of arsenic, permanganate douches and santal oil and salol. Bier's hyperemic treatment was instituted for several days after the hand was opened, with very good results.

There is no doubt but what the serum is of decided value in the treatment of gonorrhoeal complications, but only so when given in much larger doses than that advocated by the manufacturers. Corbus in a recent article in the *Journal of the A. M. A.*, shows distinctly the value of serum when given in large doses.

The one objection, however, to its use in this class of patients is its high cost. When one considers that 30 to 45 c.c. of the serum are necessary for a curative dose, and the price \$5.00 for 6 c.c., the total price will often cause a serious delay in its administration, and in some instances the well-nigh impossible.

The only untoward results noticed in this particular case was an eruption of wheals accompanied with marked itching and some pain.

Nevi.—Treatment. Use of radium advised. Skin should first be broken over lesion, even if only by lightest electrolysis, to permit of rapid action and therefore small dosage of radium salt. Eradication without scarring.—De Courmelles.

Lead Poisoning.—Treatment. Obstinate lead colic relieved and constipation overcome by giving a tumblerful of olive oil once daily.—Bram.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM.*

STATE MEDICAL ASSOCIATION, NEWPORT MEETING, SEPTEMBER 23, 24, AND 25.

Address in UrologyJ. Bentley Squier,
New York City.

Tuberculosis of the Kidney; Its Diagnostic Difficulties and Therapeutic Problems Filipp Kreissl, Chicago.

Childhood Infection; Adult Death in TuberculosisOtis Senour, Union.

Methods of Early Diagnosis in Tuberculosis B. K. Menefee, Walton.

Tuberculous Cervical Glands
J. W. Kincaid, Catlettsburg.

Treatment of the Middle Ear Through the Eustachian TubeR. W. Bledsoe,
Covington.

Trachoma J. A. Stucky, Lexington.

Economic and Social Aspects of Deafness Isaac Lederman, Louisville

Clinical Aspects of Carbo-Hydrate Metabolism Louis Hamman, Baltimore

The Mentally Defective Child
George W. Armes, Louisville.

Enuresis in ChildrenN. W. Moore,
Cynthiana.

Mediastinal Lymph Nodes in Children
A. O. Sisk, Earlington.

Minor Lesions of the Pudenda
H. C. Clark, Falmouth.

Uterine Myomata and Malignancy
Joseph G. Gaither, Hopkinsville.

Differential Diagnosis of the Paralyzes of Childhood — C. A. Nevitt, Lexington.

Abbott's Treatment of Scoliosis
John B. Richardsou, Louisville.

Classification of Joint Lesions
W. J. Gerding, Newport.

Etiology and Symptoms of Acute Rheumatic FeverJ. M. Salmon, Ashland.

Prophylaxis and Treatment of Acute Rheumatic FeverG. G. Thornton,
Lebanon.

Exploratory Incision as an Aid to DiagnosisW. A. Quinu, Henderson

Who Should Do Surgery?
Ap Morgan Vance, Louisville.

Surgery in HeadacheG. A. Hendon,
Louisville.

Bone Grafting for Potts' Disease and Ununited Fracture R. W. Ryerson,
Chicago.

Relation of Gynecological to Nervous diseasesGeorge P. Sprague, Lexington.

Examination of the Spinal Fluid in Mental and Nervous Diseases.....
H. P. Sights, Hopkinsville.

Common Natural Causes of Sudden DeathEllis Duncan, Louisville.

Rural Hygiene and the Sanitary Privy
C. W. Shaw, Alexandria.

Alcohol as a Health Problem
J. N. Hurty, Indianapolis.

A Study of Typhoid Carriers
A. T. McCormack, Bowling Green.

Practical Value of Serums, Vaccines, etc. in Treatment.....Leon Solomon
Louisville.

Preparation and Use of Autogenous Vaccines John D. Allen,
Louisville.

Placental Serum in the Toxemias of Pregnancy E. F. Horias, Louisville.

Sero-Diagnosis of Pregnancy
H. J. Farbach, Louisville.

WARNING AGAINST WORTHLESS ANTIFAT "CURES".

Numerous inquiries received recently by the U. S. Department of Agriculture indicate that promoters of so-called obesity remedies and fat-reducing cures are using an old trick dressed in new clothes to deceive fat people into spending money for worthless or dangerous preparations. The advertisements appeal to the vanity of people who wish to regain graceful figures and also to the business necessities of those who become so fat that they can no longer do their work efficiently.

In order to be able to give a definite reply to many people inquiring about specific remedies, the drug specialists of the Bureau of Chemistry recently conducted a series of tests with a number of nostrums of this character on employees in the Department who wished to lose surplus flesh without injuring their health. One of the most widely advertised so-called prescriptions for reducing flesh was tried for a period of six months. The result was that two of the subjects under experimentation were obliged to stop after taking the medicine for two or three weeks on account of its injurious effect. The third subject gained 2 1-2 pounds instead of losing flesh. Another of the so-called remedies of a "Great Obesity Specialist" was tried. The subject scrupulously followed the diet list which accompanied this remedy and faithfully carried out the system of exercises recommended. After six months' treatment there was a reduction of 18 pounds of flesh but this the experimenters attributed to the fact that the subject ate no bread, butter, starchy food, pastry, sugar or candy while under observation. The first month after discontinuing the treatment the subject gained 10 pounds, and in three months was back to the

*This program is not complete

original weight recorded at the beginning of the treatment.

The circulars, letters and other announcements of these so-called obesity remedies, which are published broadcast, in many cases asserted that a two cent stamp is the only charge. Those sending the two-cents to the supposed philanthropist, who wishes to help other sufferers to get rid of surplus flesh, commonly received a statement that the physician or "professor" discovered this remedy in the wilds of some foreign country or received it from some famous Indian medicine man on his deathbed. Then after due praise of the effectiveness of the remedy the "professor" states that he is willing to supply this wonderful treatment for a fee of from \$15 to \$25 a month. If the prospective patient does not answer immediately he is besieged with a line of follow-up letters, and finally as a great individual favor he is told that he can obtain this marvelous guaranteed flesh reducer for the sum of \$2.50. In return for the reduced price, however, the patient must agree to tell all his fat friends about this wonderful means of shedding *avoirdupois*.

Judging from the letters received by the Department of Agriculture appealing to it to stop this practice under the Food and Drugs Act, women are usually the victims of these "professors." Much of the literature contains alleged statements of some individual woman's thrilling experience in fat-forming and fat-reducing, and this makes the situation seem real and personal to the other women. Cases are on record where women have parted with almost their last dollar in the hope of improving their figures, and have awaited results with anticipation that makes their later disappointment almost pathetic. The strong feature of most of the literature is that no dieting is necessary; the medicine is to do it all and the patient is told that he can eat all he wants and as often as he wishes, which is a strong inducement to most stout people.

These preparations usually contain thyroids and a laxative. The thyroids may prove very hurtful unless given under the advice of a physician personally familiar with the subject's physical condition. The Department has on record an instance where death has followed overdoses of preparations containing thyroids. Other preparations contain poke root, (*phytolacca*) a poisonous drug, and others, analysis shows, contain nothing that could possibly have the slightest effect in reducing flesh.

The promoters of one preparation assert that it secures most marvelous results by a process of elimination of foods without digestion. These people guarantee the reduction

of a pound a day. A preparation of this character, if it did what its makers claim for it, would probably eliminate any need of digestion in the future. Another product, examination shows, consists principally of ordinary soap. The idea is to apply this locally with friction and thus remove the fat wherever it may be in excess. A still more clever scheme provides chemicals to be added to the water in which they form a sort of curd in the water after the patient has bathed. This curd, the advertisement states, is fat and surplus tissue removed from the body. Other schemes supply a tablet at 75 cents a dozen for which a claim is made that it will reduce fat at the rate of a pound a day.

No other class of preparations exploited to humbug the people has a wider sale, and in nearly every instance they are absolutely worthless. In many cases where patients seem to lose weight this result is attributed to the hot baths and the diet and exercises recommended as an accompaniment in taking the medicine.

The only way that the Department's specialists know of safely reducing flesh are rigid dieting, and strenuous exercise, and those to be effective must be continued over a long period of time. The fat reducing patient must eliminate from his diet fats, starchy foods and sugar. In many cases it is not wise because of other physical conditions for fat people to attempt any rapid reduction in weight. As a general rule diet and exercise are best directed by a skilled physician. Loss of flesh is by no means a blessing if accompanied by loss of health, energy or strength.

It is practically impossible to prevent the sale of these preparations in interstate commerce under the Food and Drug Act for the reason that the claims upon the packages are purposely so guarded as to evade action. As a rule the claims, guarantees, etc., appear in advertisements, circular letters, etc., and these the makers are very careful to keep separate from the package.

The Post Office Department, however, has been instrumental in silencing some of these promoters by issuing fraud orders against them and denying them the use of the mails. The Department of Agriculture, can only warn the people to beware of all such preparations containing such claims, for in the knowledge of all drug specialists at the present time there is no preparation that can be depended upon to reduce flesh in any marked degree without doing injuries.

IN MEMORIAM

Dr. Glenmore Combs died in church, May 17th, 1914, in the sixty-sixth year of his life. All the above time he lived in Clark county. In early life a country school teacher in which he was successful, he gave it up for the profession of his choice and was ever regarded a leader among his fellows. It was the writer's fortune to know him before his graduation at the Louisville Medical College in 1875 and the friendship then formed continued to the end; it was our personal



DR. GLENMORE COMBS
1849-1914

sad misfortune to be with him in his dying hour, for being seated near him we did our best to stay the sad summons which was but of a few minutes duration. Dr. Combs was as true as steel to his friends and was equally determined toward those he thought had wronged him; so you can see you always knew where to find him; he always took a stand on all questions whether professional, political or social, and his course was known to all for he straddled no question. He kept ever abreast with advanced medical thought and on his shelves could be found the latest and most reliable professional opinion. When we say we thought well of him it is enough to say that he was our family physician; to him we trusted not only our own life but that of the loved ones of our household; when a physician knowing his fellows calls one of them to attend his own family, he, in my opinion, pays the highest compliment in his power; in this relation we never regretted having done so for we thought him competent, faithful and true. We shall miss him as but few physicians will; for having commenced the practice of the healing the same year that he did and having been, during all these years, often associated with him as attending physician

or consultant we feel that we are in a position to speak authoritatively to his genuine worth as physician and friend. Dr. Combs was a physician of worth, an upholder of the traditions of medicine, a man during life having made the world better and when gone leaving behind a host of grateful and sorrowing friends to whose miseries he has often administered. Good bye, brother, may the days be pleasant over there under the shade of the trees, and may you enjoy to the fullest the well-earned rest after having done what you honestly conceived to be your full duty.

I. A. SHIRLEY.

At a called meeting of the Clark County Medical Society, on May 19th, 1914, the following resolutions were unanimously adopted:

Whereas, Time in its unswerving course has removed from our midst Dr. Glenmore Combs, an associate and fellow-member, and

Whereas, Throughout his long, busy and useful life his interest in professional affairs and his skill and honor as a practitioner have placed him in a position of respect and esteem, and

Whereas, His loss will be keenly felt by those who have known his beneficent influence, and to whom he has so kindly ministered, therefore be it

Resolved, That the Clark County Medical Society expresses its esteem for him as a member of our profession, and its sincere regret at his death, and tenders its sympathy and respect to his family in their sad loss, and be it further

Resolved, That the Secretary incorporate these resolutions in the minutes of the Society, and that a copy be sent to the bereaved family, and to the local papers and the Kentucky State Medical Journal for publication.

I. A. SHIRLEY,

JOHN A. SNOWDEN,

H. R. HENRY, Sec'y.,

Committee.

The Kidney Functioning in Chronic Nephritis.

—Crosa gives the details of extensive research in ten cases of chronic nephritis to determine the influence on kidney functioning of a meat diet and other factors. The results show that a moderate amount of meat is not injurious in such cases, whether the nephritis is of the chronic interstitial type or of the subacute or chronic parenchymatous type. The results of the findings with the various functional tests applied did not always harmonize. It is evident that even with all the progress in modern diagnostic methods, the most valuable information is still as ever to be derived from the quantity, specific gravity and sediment in the urine and its albumin content.

COUNTY SOCIETY REPORTS

Greenup—The Greenup County Medical Society held its regular meeting at Fullerton, July 2, 1914, at the Davis Hotel.

Members present, C. E. Vidt, E. R. Fitch, J. A. Frantz, H. T. Morris, A. S. Brady, A. P. Hunt, M. W. Meadows, W. E. Nichols and A. J. Bryson. Visitors present, Drs. Rardin, Test, Robe and Sapp.

A. S. Brady read a paper on "Various Conditions Arising in the Breast of Nursing Mothers."

J. A. Frantz read a paper on "Hookworm."

C. E. Vidt reported one case of "Gonorrhoeal Arthritis" and one case of "Tendino Synovitis."

Jno. Rardin opened the discussion of the papers followed by Robe, Test, Meadows, Nichols, Morris, Vidt, Fitch, Hunt and Bryson, closing by Brady, Frantz and Vidt.

Mr. Sapp made a short talk urging the members of the society to lend their support in the anti-tubercular campaign, which they agreed to do.

This was the best medical meeting ever held in Greenup county and we hope to make our society better each year.

The next meeting will be held at Russell, August 6, 1914.

A. P. HUNT, Secretary.

Bourbon—The Bourbon County Medical Society held its regular quarterly meeting with the clinical section in the County Court Room of the Bourbon County Court House, Thursday, June 18, at 8 P. M.

The minutes of the preceding meeting were read and approved.

F. L. Lapsley, Chairman, made final report on School Inspection.

W. M. Kenney and **Rankin**, reported three cases of peculiar interest.

M. J. Stern and **C. G. Daugherty** gave a demonstration of Von Dungen's test for syphilis.

A report of clinical cases followed.

Symposium on Typhoid Fever.

C. G. Daugherty, "Preventive Vaccination."

A. H. Keller, "Prophylaxis, Disinfection, Hygiene and Prevention."

Wm. Kenney, "Diagnosis."

J. T. Brown, "Use of Bacterins in Treatment."

W. C. Ussery, "Diet."

Frank Fithian, "Drug Treatment."

C. G. Daugherty, "Use of Horse Serum for Hemorrhage."

Discussion opened by Doctors Smith, Daily and Middletown; Anderson and Smith, Shawhan; Calhoun, Millersburg; Cook and Henry, North McClure, Plum Lick; Linville, Centerville. Followed by a general discussion.

C. G. DAUGHERTY, Secretary.

Cumberland Valley—The Cumberland Valley Medical Association met at Corbin, March 26th, 1914. The following doctors were present: W. F. Boggess, A. D. Wilmoth, Louisville; W. L. Heizer, Bowling Green; T. J. Ballard, J. H. Parker, B. J. Edwards, G. G. Edwards, W. C. Bryant, J. F. Bryant, Wm. Cox, and J. F. Wilder, of Corbin; H. S. Pitman, East Bernstadt; J. W. Parker, Grays; O. P. Nuckols, Pineville; C. A. Moss, E. S. Moss, Williamsburg; J. S. Lock, Barboursville; P. E. Bryant, J. B. Mason and H. V. Pennington, of London; P. E. Giannini, Dorothy; Jim Richmond, L. Scott, and J. L. Hefferman, of Jellico, Tenn.; F. R. Burton, Flatlick; Owsley, of Lily; G. S. Brock, London; L. S. Siler, Woodbine; J. G. Foley, Pineville; Pennington, Bertha; George Corum, Wilton.

B. J. Edwards, of Corbin, delivered the address of welcome which was heartily responded to by **O. P. Nuckols** of Pineville. After which the society and the large crowd of the laity which filled the Majestic Opera House were delightfully entertained and instructed by **W. F. Boggess**, of Louisville, in his speech "The Relationship of the Physician to the Public."

W. L. Heizer then gave an excellent talk, emphasizing the necessity of an all-time health officer in Whitley County to lower that appalling death rate from preventable diseases and to see that our schools use books teaching the laws of health. He was greeted by great enthusiasm when he asked if those present would be willing to pay a tax of ten cents a head to have an all-time health officer.

J. H. Parker, of Corbin, then read a very instructive paper on "Appendicitis." After this paper the meeting adjourned to the banquet hall of the Wilbur hotel where the society of Corbin had arranged for a banquet to entertain the visiting doctors.

After the banquet, **J. B. Mason**, of London, read an extra good paper on "Some Uses of the X-ray as a Diagnostic Agent," this was followed by **M. Pennington**, of Bertha, with a paper on "The Country Practitioner and Cut Fees." Dr. Pennington has established himself as a writer of ability with this paper which was thoroughly enjoyed by all.

A. D. Wilmoth, of Louisville, then gave us a paper containing a wealth of information upon the subject "Diagnosis of Cancer of the Breast."

The annual election of officers was then held and J. H. Parker, of Corbin, was elected president; J. G. Foley, of Pineville, first vice president and C. A. Moss, of Williamsburg, secretary and treasurer.

C. A. MOSS, Secretary.

Daviess—The Daviess County Medical Society held its regular quarterly meeting on June 16th, at Lewisport.

The President, J. M. Stuart, presided. Forty-two members were present.

J. W. Knox, in a very pleasing talk, welcomed us to Lewisport.

The President responded and told him we were very happy to be in his town.

A. E. Popham, of Knottsville, made application for membership.

J. L. Carter reported a case of "Pott's Disease," in a child two and one-half years old, bringing the child before the society for examination. Several examined the patient, stating with Dr. Corten, that the child had in addition to Pott's disease, tuberculosis of the lungs. An interesting discussion followed.

Three good papers were read and discussed.

Robert Lockhart read a paper on "Progress in Medicine During the Last Thirty Years." "Preventive Medicine," by **A. McKenney**, and "Acute Dysentery," by **F. M. Sherman**. These have all been sent to the JOURNAL, as well as a very interesting paper, "How To Run a Hospital," read by invitation by Mrs. Ella G. Davis, Matron of our City Hospital.

The doctors of Lewisport, assisted by their friends, treated us royally. Good cheer and welcome was read on every face. They set a bountifully loaded dinner table before us, and we left it not as we found it.

Thirty-three of us with several ladies made the trip to Lewisport and return on the gasoline boat

"Messenger," twenty miles each way. It was a delightful ride. The joys of this meeting will long be remembered.

J. J. RODMAN, Secretary.

Oldham—The first half of this year finds our society in good working shape. With a paid-up membership of 12 we think this is Oldham's best year.

The following officers are doing creditable work:

J. E. L. Harbold, President; **R. B. Cassady**, Vice President; **E. D. Burnett**, Secretary-Treasurer; **C. N. Goldsborough** is Delegate, and **E. D. Burnett**, Alternate, to the State Society for 1914.

On June 4th a reception was tendered **J. H. Speer**, the Nestor of the county doctors. A nice program with music and refreshing ices made the occasion a happy one.

The following is the July program:

J. L. Hancock, "Diagnosis and Treatment of Chronic Gastric Catarrh."

H. B. Blaydes, "Summer Diet."

R. B. Pryor, "Typhoid Prophylaxis."

T. G. Connell, "Case Reports."

R. B. Cassady to lead the discussion.

The society meets the first Thursday in each month at the Park Hotel, La Grange.

E. D. BURNETT, Secretary.



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VOL. XII No. 16



AUGUST 15, 1914

\$2.00 YEAR

ORIGINAL ARTICLES

EVERYDAY ORTHOPEDICS.

By W. O. HUMPHREY, Louisville.

Andry, in 1741, coined from two Greek words, *opsor* "straight" and *taio* "a child," the word orthopedic, and gave it to this specialty as defining a distinct department of surgery. Yet very little had been accomplished before 1831, when Stromeyer, of Hanover, practiced subcutaneous tenotomy. Surgeons from every part of the world have contributed toward the development of this specialty, and to-day it occupies no small place in American practice. It has been said that all orthopedies originate with the family physician, because he is first called, and I have therefore purposely selected a few of the affections which are common in the experiences of almost all of us, and will attempt to discuss the orthopedic interpretation and the treatment of the cases.

The deformities of rickets may occur in the arms, legs, pelvis, clavicles, chest, head and spine. The rachitic deformity most frequently observed and to which I will direct your attention this evening is bow-legs. The term bow-legs is generally applied to an outward curving of the legs, and may exist either as a gradual curve of both thigh and leg, a curve of the leg only, or an outward angular deformity of the knee in which the thigh and leg share only slightly. Body weight and the pull of contracting muscles cause the softened bone to yield in the line of least resistance, outward in some cases, in others forward, while in others inward at the knee, causing knock knee. With proper treatment outward

bow-legs in children can almost invariably be cured by suitable mechanical or operative treatment. The parents of the child are instructed to have the child, twice each day, sit with the ankles together, while they press the legs with the flat of the hands over the points of greatest curve. If at the age of three years the curve persists, a brace should be applied, running up the inside of the leg and pulling the knee inward. At the expiration of the third year even deformities of moderate grade should be operated upon. Operation before this time is likely to be followed by relapses, as the bones are not as a rule sufficiently eburnated.

Pes planus, this most common deformity is either congenital or acquired. Congenital flatfoot is a condition of not very great frequency and when seen is often associated with defective formation of the bones of the leg. A pad of fat, just under the arch causes the foot to appear flat, but if the condition really exists, the whole foot is displaced outward, the sole rolled outward, the inner malleolus prominent and the foot abducted on itself. Manipulation of the foot into a correct position and the application of adhesive plaster to retain the corrected position is usually effective treatment. When the child begins to walk, the arch of the foot should be at first supported by a proper plate. The diagnosis of muscular rheumatism is frequently made in acquired flatfoot, and is often the source of much misdirected treatment. So-called rheumatic pains in the calves of the leg, knee, or hip, especially at night, and backache aggravated by standing or walking may be secondary to flatfoot. Only a few days ago a man came into my office and wanted something for

his rheumatism and all but refused to remove his shoes and clothing to allow an inspection of his feet. The common form of flatfoot is the static variety and its chief cause is the use of shoes of improper shape and size, notwithstanding the often existing disproportion between bodyweight and the sustaining power of the muscles and ligaments, produced by rapid increase in weight. No one will dispute that it is the chief predisposing cause making all the following causes more efficient; weakness and insufficiency of the muscles resulting from rapid growth, from poor general condition, advancing age, and convalescence from acute illness, childbirth and traumatism of the legs, especially fractures. The abnormal position is an exaggeration of the normal yielding of the foot under weight bearing, simply a change in the relations of the bones and not the bones themselves. Flexible flatfoot is a type in which the arch can be restored by gentle manipulation and is easier held in its normal position. The use of a proper shoe is the first step in the treatment of all cases. Sometimes this is not so easily accomplished, because the patient objects to the looks of the shoe, but this point must be insisted upon. A shoe should be as wide as the breadth of the ball of the foot when weight bearing and should have a nearly straight inner side, and the depth of the shoe must be sufficient not to bind at each step. Supports are flexible or rigid. The flexible supports are suitable for use in young children, in slight cases, and in convalescent cases, where it is desirable to have the patient exercise the muscles. They may be made of felt or leather and must be sewed to an inner sole fitting the shoe. Rigid supports are best made of tempered steel, fitted to a cast of the foot. The shape of the plates is a matter of individual judgment. In the severest cases of flexible flatfoot the skin cannot endure the pressure of the plate and properly applied adhesive plaster or a brace must be used to take the weight off the plate. Treatment of rigid flatfoot demands that the patient should be etherized and by a process of forcible manipulation similar to, but the reverse of that used for clubfoot, restore the foot to correct position, and retain this position for several weeks, after which a plate should be worn.

Round shoulders, is of static origin, the result of rapid growth, muscular weakness and faulty attitude, a condition which is usually first detected by those of you who are doing school inspection work. Improper school furniture, sitting in bad positions at home, overwork, bad air, improper diet, rapid growth and suspending the weight of clothes from the tips of the shoulders by the ordinary

type of child's waists are the chief causes. In some of the types the whole back is curved in one posterior bow and is spoken of as "round back," in others the backward dorsal convexity and the lumbar forward convexity are exaggerated and are referred to as "round hollow back." Absence of the diagnostic signs of Pott's disease coupled with the general condition almost invariably muscularly weak makes the diagnosis. Improvement of the hygiene, the use of proper school furniture, the proper arrangement of the clothes, and properly performed daily gymnastics under careful supervision, constitutes the treatment. Braces should be avoided, as they cannot be regarded as treatment, but simply as a means of holding the patient between treatments.

Congenital clubfoot is a fairly common deformity, and one with which we are all familiar. Of the cases obviously caused by intrauterine pressure, we can account for the deformity only as we account for deformities in general. While the cause of clubfoot is an insignificant issue, its treatment is paramount. A neglected case becomes one of the most difficult and lasting problems with which we have to contend. If treatment is instituted early enough while the tissues are more yielding, an absolute cure can be obtained with perfectly normal feet. The treatment should begin when possible, while the child is two or three weeks old. The foot must be manipulated into an over corrected position by gentle force, and an adhesive plaster dressing applied to retain the over correction, or a plaster of Paris bandage snugly applied over cotton rollers. Adhesive plaster dressing should be removed and the foot manipulated into a further over-correction, and then reapplied every week. If a plaster of Paris dressing is used, the knee should be flexed to prevent the leg from slipping in the cast, which would allow the foot to resume the former position of deformity. This dressing is worn for two weeks, and at each subsequent dressing and at each renewal of the adhesive plaster, there should be a distinct gain. When the over-correction is complete, adhesive plaster or a light brace should be used to hold the over-correction, and as soon as the child is old enough to walk, constant use of the foot in weight-bearing should be encouraged. Older children, who have been allowed to go untreated, of course require osteotomies, or tenotomies, and oftentimes both, which at best give indifferent results, and are a reflection on the medical men, for failing to insist on early and immediate procedures. Time lost at the start can never be regained, and parents must never be told to wait until the child is older.

Two things I wish to emphasize before closing and they are, that the diagnosis of these conditions is evident from inspection and must be most carefully and rigidly carried out, and that the treatment is often laborious and seemingly endless.

DISCUSSION.

W. Barnett Owen: I have enjoyed Dr. Humphrey's paper very much indeed. He has covered so much ground that it is difficult to know where to open the discussion.

The condition of weak foot is often mis-called "flat-foot." In many of the most painful conditions of the foot, the arch is apparently not deformed at all. In all cases of acquired weak foot or flat foot, I believe the real cause or beginning of the trouble lies in the fact that the individual has been taught to turn the feet out. Even the soldiers in the army are taught to turn their feet outward at an angle of about forty-five degrees. However, I was told not long ago that this practice has been discontinued in the army. The reason this causes flat foot is that the weight on the feet is not balanced properly, causing strain of the internal ligaments and perineal muscles, and slipping of the astragalus. In very few cases of acquired flat foot in the negro race does the condition seem to cause much pain. I do not know why this is, but it is a fact that we seldom see a negro with pain in his feet, although they are nearly all flat-footed.

Rigid weak feet cannot possibly be corrected except under anesthesia, with forcible over-correction for a sufficient period of time, after which a cast or mold of the foot should be taken and a well-fitting brace made to hold the foot in position. The application of a brace will not correct flat foot; all it is good for is to prevent a recurrence of the deformity after it has been corrected.

Dr. Humphrey did not mention one of the most common and most neglected conditions met with by the surgeon and general practitioner; namely, infantile paralysis. I have seen so many cases of infantile paralysis that have been allowed to go without any protective dressing or apparatus of any kind, the physician instructing the patient that this is the proper thing to do; that it tends to develop the muscles. This is a mistaken idea, because a group of muscles once paralyzed as the result of infantile paralysis, always remain so, and any development that may occur is in the unaffected muscles which contract against the paralyzed muscles and, of course, cause deformity much more quickly because they have nothing to pull against. These cases should be protected by a proper dressing before they get into this deformed condition.

Another condition Dr. Humphrey failed to mention, and which is met with very frequently, is arthritis. There are so many causes of arthritis.

I attended a medical meeting up in Indiana a short time ago, and heard Dr. Mayo read a paper in which he touched upon the many different causes of arthritis, and mentioned one in particular which we sometimes hear of but seldom meet with; namely, arthritis due to appendiceal infection. He said that a number of cases had been recorded in which, upon removal of the appendix, regardless of any other treatment, the joints resumed their normal attitude. A beginning arthritis should be put at rest, regardless of what the cause may be. It is exceedingly difficult to make a positive diagnosis of tuberculous arthritis, but if we allow the case to go until deformity has occurred and destruction of the bone has taken place, it is almost too late to expect to get a good result. Not long ago a little boy was sent to me from Southern Indiana, with a beginning arthritis. Upon examination I found that he had considerable flexion and muscular spasm. An X-ray picture had been taken before he came here, which showed no destruction of bone. After operating upon him, I have been taking X-ray pictures at intervals and the last one showed slight erosion of the hip joint. However, his temperature has been normal since the first month.

I think we make a great mistake in not considering these cases of arthritis serious before it is too late. If proper treatment be instituted early enough, we can frequently get a perfect result. In the case mentioned, I believe the patient will be able to walk without a limp. The destruction of tissue has been very slight, and there has been no further destruction since the second plate was taken.

In cases of rachitis, it is always necessary to build these patients up, because the main cause, I believe, is malnutrition. Correction of the deformity without correction of the underlying condition is fruitless. In operations for bow-legs and knock-knees, I believe subcutaneous osteotomy is the generally accepted method at the present time. Every case should be greatly over-corrected. It may appear to be entirely too much correction at the time, but when we put the brace on after the plaster has been removed, we will find that it is not any more than we want.

I am glad that Dr. Humphrey brought up this important branch of surgery and I have enjoyed his paper very much.

The Council on Pharmacy and Chemistry of the A. M. A.—Puekner describes the work and aims of the Council and relates what it has accomplished in this country and suggests how a similar work might be successfully carried on under the conditions prevailing in Germany.

A CONSIDERATION OF THE INDICATIONS FOR CEREBRAL DECOMPRESSION.

By G. A. HENDON, Louisville.

There are two classes of cases that come within the therapeutic influence of decompression of the skull, *traumatism* and *neoplasms*. The immediate purpose of decompression is to afford more space to allow for the brain expansion because of pathological changes. In case of an abnormally large brain in a normal cavity expansion must be provided for, or dire results are inevitable.

1. *Wet Brain*: The symptoms embrace all the degrees and varieties of mental disturbance. Most often, however, the conspicuous symptom is immediate and continuous mental cloudiness; and stupor, without disturbance in the respiratory rhythm, as in more serious injury. Convulsions are quite common in children sustaining this injury.

Sometimes the patient will answer such questions as where he lives or what his name is or the name of his parents, but beyond that cannot be induced to go. The pulse appears about normal, with blood pressure increased. Generally there is elevation of temperature, vomiting, and constipation. The pupils are equal and react to light. If the patient is conscious he complains of headache and dizziness. The symptoms begin immediately after injury, and there has been in every case seen by me an immediate period of unconsciousness followed in the lighter cases by partial return to normal. The perceptible lesion varies in severity from a bruise upon the scalp to a fracture of the skull. The external marks of injury do not serve as an index to the amount of damage done to the brain beneath. Convulsions, when they appear, are always significant of a grave lesion and are generally believed to indicate filling of the ventricles with blood or serum. I have records of five cases of this kind in which a decompression operation was followed by prompt relief.

2. *Fracture*: As a relief of symptoms accompanying fracture of the base my experience has been uniformly disastrous. I have not seen a single case benefitted by this procedure. The only argument supporting its continued trial is that there is nothing else to do and we employ the operation hoping at least to save one hopeless case. My observation tends to make me believe that meningitis, not pressure, is the prevailing cause of death in this class of injuries.

3. *Subdural Clot*: For subdural clot the indication is obvious. Its presence is manifested by symptoms of cerebral irritation combined with focal paralysis.

4. *Extradural Clot*: Extradural clot presents the same obvious indications. This condition is manifested by stupor combined with focal paralysis, the symptoms developing after a distinct interval from receipt of the injury. The technique of treatment in sub and extradural clot differs from decompression in other lesions in that it admits of the use of osteoplastic flap whereas the other conditions calling for relief from pressure require a permanent defect in the skull. I have had no experience with decompression in the newborn and can only refer to reports in the literature. I cannot believe that it will ever become popular.

5. *Epilepsy*: Like all other remedies for epilepsy, decompression has failed unless there is some definite pathology to be seen and recognized and removed. The mere removal of a segment of bone has not proven of value. But by removing scar tissue in the dura or the spasm center (according to Krause), or by breaking adhesions between cortex and dura certain cases of epilepsy have been cured; only, however, when they are of the true Jacksonian type and present a definite traumatic history.

Apoplexy: Decompression for this disease is earnestly recommended by Cushing in his article on the brain in Keen's System of Surgery.

Trauma: I beg leave to quote three authorities and attempt to draw our own conclusions from a composite view of the three separate opinions:

Frazier (*Progressive Medicine*, March, 1914), gives the views of Homans as follows: "If the patient when seen from six to twenty-four hours after injury shows a slow pulse, rapid and irregular or shallow respiration, low blood pressure, a temperature of 103 or over, bright bloody fluid on lumbar puncture, and deep unconsciousness, I am not inclined to operate because I feel I shall gain nothing." Frazier then divides the cases into three groups:

(a) Those which are serious, grow rapidly worse, and die in from six to twenty-four hours after the injury.

(b) Those less grave which exhibit their most serious phase in the first twenty-four hours, but after several days of more or less profound unconsciousness gradually improve.

(c) Those which at first are without apparent fatal tendencies, but later exhibit signs of serious medullary disturbance that may be relieved by operation.

In the latter group alone, and it comprises only the minority, is operative treatment justifiable.

Grosshart (quoted in the same article by Frazier) reported 15 cases operated on; 12

recoveries; 1 death. One case developed epilepsy six years after. In cases presenting unconsciousness, vomiting, and loss of reflexes, he can come to the conclusion that operation should not be delayed if there is no improvement at the end of forty-eight hours.

Let us attempt to correlate these three points of view:

(a) Homans says in substance that the operation of decompression is a good one if the symptoms do not indicate fracture of the base, because the symptoms he enumerates as prohibitive or operation are pathognomonic of basal fracture, i.e., slow pulse; rapid, irregular or shallow respiration; low blood pressure; temperature of 103 or over; bright bloody fluid on lumbar puncture, and deep unconsciousness. In short, in fracture of the base with the inevitable pressure of clot and meningeal infection operation does no good. (Frazier expresses almost the same opinion in different phraseology).

(b) If the case is serious enough to die in twenty-four hours after injury do not operate.

Those which begin to improve after twenty-four hours do not need operation.

(c) Those which do not look bad in the beginning but grow worse after a few days should be operated upon.

According to Grosshart, the cases presenting loss of consciousness, vomiting, and loss of reflexes without the slow pulse, rapid and irregular or shallow respiration, low blood pressure, temperature 103, bright bloody fluid on lumbar puncture, and deep unconsciousness, should be operated upon. In other words, the entire discussion as I see it resolves itself in the advice that if there is a traumatic head injury and symptoms of fracture of the base are present *operation will do no good*. If the patient does not seem to have sustained a severe injury and is improving *operation is not needed*. If there are signs of cortical pressure *decompression is the remedy*.

8. *Injuries Incident to Labor*: In considering decompression as a remedy for the cranial traumatism of labor, the differentiation between cerebral and cerebellar pressure has an added importance because of the frequency of the latter. In other words, a subtentorial clot could not be relieved by a pretentorial decompression. On the other hand lumbar puncture is of no avail when a pretentorial clot exists. Accompanying pretentorial pressure we find the following list of symptoms: Extreme restlessness and spasm; rigidity of the extremities; epilepticlike twitching of the face, arms and legs; lowered pulse and respiration; rapid rises in temperature; increased reflexes; bulging of the

fontanelles; widening of the lambdoid suture; narrowing and, later, widening of the pupil on affected side (in cases of unilateral hemorrhage), and in some cases paralysis of the facial, hypoglossal, and accessory nerves; subconjunctival and palpebral hemorrhage; edema of the eyelids, and proptosis.

The child cries and screams almost constantly and for no apparent reason. The inexplicable screaming is pathognomonic and is due to dural tension with the peribulbar type (or subtentorial). The baby is usually in a somnolent condition, with cyanosis of the face, head and hands; pulsating fontanelles; irregular breathing, and sometimes convulsions. In these cases lumbar puncture will usually elicit signs of hemorrhage.

Of considerable moment in the differential diagnosis between infra and pretentorial hemorrhage is the time in which the symptoms first manifest themselves. In the latter (pretentorial), there may be an interval of several hours or days of freedom from symptoms, where, as in peribulbar hemorrhage, the influence of pressure appears more abruptly and at shorter intervals. It is only cases where lumbar puncture has failed to relieve the subtentorial type, and aspiration through the fontanelle fails to relieve the pretentorial type, that decompression is called for.

I am rather constrained to the belief that cranial surgery of the newborn is a field very much neglected. Henschen reports 56 per cent. of mortality, which probably accounts for the small number operated on to date. None of us like to work in a field where the prospects are so gloomy and such little hope is held out.

Neoplasm: Krause makes the following observation relative to decompression for inoperable tumor: "The immediate dangers of decompression trephining are not great and the operation may disclose the location of the tumor and decide the question whether it be operable, presenting thus a blessed palliative measure. It is analogous in this respect to gastrostomy in cancer of the esophagus; colostomy in inoperable sigmoid cancer, and gastroenterostomy in inoperable carcinoma of the pylorus.

In addition, oftentimes these measures prolong life. Of no less import is the relief afforded cephalalgia, vomiting, and disturbance of vision. Horsley advises the operation as soon as neuritis optica appears. His experience leads him to conclude that the measure is ineffective in this connection only, when the neoplasm involves the optic tracts themselves. At this time it seems proper to state that in most instances the optic neuritis involves only the side corresponding to the seat of the neoplasm. Horsley also has point-

ed to the fact that subacute encephalitis may produce the symptoms common to tumors of the brain and that in this class of cases decompression trephining affords relief. The measure is of less value in the majority of cases of rapidly growing tumors located at or near the cortex of the brain, more especially glioma and gliosarcoma which are diffuse in character and involve wide areas of cortex or white substance and present unfavorable conditions in this connection. The establishment of a vent affords only temporary relief and soon the progressive growth forces the osteoplastic flap upward, and even though union of the wound may have taken place the line of incision is separated or the scar undergoes degeneration. The contents of the skull are extruded and cannot be restrained in any way. Each amputation or cauterization simply invites renewed protrusion. In cases of this sort the free use of morphia affords the only available modification of the distressing physical and, fortunately, also the mental suffering. (Quoted from Horsley by Krause.)

It would be appropriate to observe in passing that cerebral surgeons receive their cue from nature, as it was noticed that cases of cerebral tumor accompanied by erosion of the skull showed improvement when the erosion proceeded far enough to relieve the pressure.

Reviewing the subject of decompression as applied to epilepsy, trauma and tumor, Frazier gives the following summary: "The fatal tendencies of cerebral contusion, with or without basal fracture, are in no wise averted by decompression. Cerebral decompression, in the experience of the author, has no more influence in any form of epilepsy than that of operations *per se*. In decompression without exploration, the element of uncertainty as to the diagnosis must be given due allowance when compiling statistics. Internal hydrocephalus, meningitis serosa, and the real nature of the affection is not determined unless revealed at autopsy. Whenever other conditions may so simulate tumor that a general anesthetic is contraindicated, temporal decompression should be performed under regional anesthesia by an alcoholic injection into the third division of the trigeminal nerve. In critical cases with excessive tension, experimental and clinical evidence indicates that no more immediate benefit is derived from a bilateral than a unilateral opening; and, secondly, that a contralateral opening gives no appreciable relief to the state of tension on the opposite side. From observations in the experimental laboratory it has been found that a pretentorial or temporal opening as effectually relieves the tension as one in the subtentorial or suboccipital region. In the selection of cases for decompression,

exclude those with coma or stupor, either periodic or continuous, as they are both indicative of the terminal stage of the disease and are not influenced, as are other symptoms, by an artificial opening. Simple decompression without exploration in properly selected cases is so free from risk that the danger of operation *per se* need not be reckoned with when dealing with a condition evidently fatal and often calling for immediate relief.

The expectation of life varies according to the seat and character of the tumor. In the author's experience the survivals include periods of three, four and six years. After decompression, headache, vomiting, and vertigo are relieved altogether or in large measure in most cases. In patients afflicted with papilledema, ultimate blindness is almost always sure to result unless in the earlier stages the brain is decompressed. When performed early, the prognosis as to sight is most favorable. Decompression properly executed and judiciously employed has survived the period of probation and has more than substantiated the forecast of earlier writers.

Eagleton reports three cases in which he did a decompression operation and relieved grave auditory disturbances.

Taylor (*Annals of Surgery*, Vol. 56, p. 56), has this to say concerning the operation: "The value of decompression in relieving the distress incident to the increased intracranial pressure is now so well established and the operation so universally practiced that little need be said here in its favor. One of my own cases rapidly becoming blind with headache and vomiting, whose skull was opened first on one side and then on the other in the temporal region, has been able to take up his work as a gardener and has supported himself over two years. It relieves the intense headache and papilledema thus preserving the eyesight, and if undertaken sufficiently early undoubtedly materially prolongs life.

"Many of our early operation on the brain were too radical; the search for the tumor was too prolonged and great damage was done in consequence to the convolutions and centers. Many of these cases were in desperate straits—were really past the point where they could be benefitted. To-day these same cases would have to come to operation earlier and with much better chances of relief. I believe now, even with increased experience, that unless the location of the tumor is very evident the tissues of the brain should not be damaged in an effort to find it, and that reliance should be placed upon decompression to relieve all symptoms. In several instances decompression, and thus relief of high pressure, has permitted the tumor to push its way

to the surface of the brain and at a second operation be removed. The operation of decompression as now practiced is one of such simplicity and safety that in the absence of acute localization it should always be advised."

DISCUSSION.

W. C. Dugan: The essayist has covered so much ground that it is hard to determine where to begin the discussion.

I am a believer in decompression in selected cases. However, in basilar fractures I do not favor operation unless we see the case very early. The point the essayist made in regard to determining whether we have a clot to deal with rather than a laceration, is a good one. If the patient exhibits a rapid pulse after a reasonable length of time for reaction, and an elevation of temperature, I do not believe operative interference in any portion of the brain will be of benefit. On the contrary, however, if the patient reacts, and there is an interval during which the patient is fairly conscious, or even approaching consciousness, with no elevation of temperature, operation is indicated. I have learned from experience that the most definite contraindication to operation in these cases is the failure of the patient to become conscious. I do not believe such cases are ever benefited by operation. At any rate, I have never seen one that appeared to be benefited.

In abscess of the brain I do not believe a decompression operation meets the indications, especially since, in the present day, we can locate the abscess fairly accurately by means of the X-rays. Any benefit to be derived from a decompression operation in such cases would be of such a temporary character that I would not regard it as an operation for abscess at all because, in spite of the operation, it will terminate fatally within a short time.

In tumor of the brain, I believe that decompression is the only thing to do where the tumor cannot be removed. In such cases we should be guided largely by the findings upon examination of the eyes. They should be referred to an ophthalmologist upon the first evidence of choked disc. I question the propriety of operation upon these cases until symptoms of this character have developed, indicating that there is intracranial pressure. The essayist did not mention the selection of the site of the decompression operation. In this we should be guided largely by whether the patient is right-handed or left-handed. If left-handed, select the right side of the body, because the speech center would become involved if you operate on the left side. Therefore in left-handed people, select the right side, and the opposite side in right-handed people.

Now, in regard to dealing with the dura. The dura should be excised or retracted and turned over the wound, and I believe the latter is the

best way to deal with it—make a crucial incision and turn it over the edge of the wound. Make an osteoplastic flap if you intend to preserve the flap. However, I have always removed the bone in the cases that I have operated upon, and I think this should be done in every case of tumor. Some operators leave a small portion of the bone cutting it off so there can be no union between the edges of the flap, leaving it open as a protection. Then the covering of the temporal fascia will yield sufficiently to permit the brain to expand, and the patient will be relieved. The first case of this kind that I saw was in the Asylum for the Insane, at Lakeland, a number of years ago. This patient had been operated upon by a doctor in the town from which he came. This man, a native of Kentucky, had gone to Missouri, where he entered politics and became a member of the Legislature. Some time afterwards, while making a political speech, he suffered an epileptic seizure, which was followed by several similar attacks and he became afraid of himself, gave up his political career and came back to Kentucky. He was operated upon by a doctor in Georgetown, whose name I cannot now recall, was relieved and returned to Missouri. The operation was not the classical decompression operation of Cushing; he was operated upon the site of what was supposed to have been a fracture. The relief afforded by the operation lasted only a short time, and he again developed epilepsy. He came back and was operated upon again and was relieved for a number of years. By this time the tumor had expanded to such an extent that there was quite a bulging at that point. Finally, it became so large that nothing could be done, and he was sent to the Asylum for the Insane at Lakeland, where he died. That was the first case I ever saw operated upon for tumor of the brain and relieved without removal of the tumor. I have seen several cases relieved of blindness by a decompression operation. One was a patient whom Dr. Lederman referred to the hospital some time ago. Unfortunately, this patient developed infection and subsequently died, but he was relieved of all focal symptoms by the operation. Another patient who was totally blind, was relieved for some time. Then he developed atrophy of the optic nerve and lost his sight. I understand that he is now totally blind, but he was relieved for quite a while.

I was glad to hear the essayist speak of wet brain. These cases of headache, blurred mentality, lost memory, etc., are the ones in which we can obtain the most brilliant results from operation, when operated upon early. I recall such a case in one of our most able attorneys, who was operated upon by Dr. Vance a number of years ago, and it was predicted that he would soon become a mental wreck, but to-day he is one of our best and most active attorneys.

I have enjoyed the paper very much; the subject is a very important one.

Ellis S. Allen: We all realize that the operation of cerebral decompression is for the relief of intracranial tension. One thing that we fear in intra-cranial tension is anemia of the brain. The vaso-motor center in the medulla depends upon the vaso-motor apparatus, and this, in turn, depends upon receiving nutrition through the vaso-motor centers. Intracranial tension is the symptomatic manifestation of the attempt on the part of Nature to keep alive the vaso-motor center by increasing vascular tension by calling the musculature of the arterial system into action. The sphygmomanometer is one of the most valuable aids we have in determining when to operate in these conditions.

I hear Dr. Murphy make a statement in connection with this subject which I thought was well taken. It was intended for the benefit of the general practitioner out in the country in fracture of the skull or any condition producing acute intracranial tension. In such cases, he said, a life-saving operation is the temporary ligation of the common carotid artery, thus avoiding strangulation of the vaso-motor apparatus. With the brain receiving a lessened amount of blood, the intracranial tension is necessarily decreased.

I believe that most surgeons to-day depend largely upon the blood-pressure apparatus as a means of determining when to operate in these cases.

G. A. Hendon, (Closing): I wish to thank the members of the society for their liberal discussion of the paper.

It seems that some of my statements were not clearly understood. I tried to make it plain that decompression is indicated only where, with all of the evidences of abscess, we are unable to locate it. It strikes me as being the better part of wisdom to invite the pointing of the abscess at some place and take a chance on it pointing near the surface where it can be easily located, as opposed to extensive operation upon the brain tissue in an effort to locate the abscess. I admit that we have so many aids to diagnosis of abscess of the brain now that this emergency will hardly ever be met with, but where it does arise, a decompression operation affords a loop-hole of escape.

In regard to selecting the site for a decompression operation, I purposely avoided going into that phase of the subject. Generally speaking, however, the site of selection is through the temporal muscle, where the bone is quite thin, and where we can work over the silent area of the brain, which is the chosen field for cranial defects. Fortunately, it is the least protected of any portion of the brain.

An osteoplastic flap is not advisable in a decompression operation, except where the cause of the trouble is removed. The only cases in which I use an osteoplastic flap are those where

a clot exists and can be removed, or where we are certain that a tumor exists which can be removed. Decompression for the relief of tumor is indicated only where the case is inoperable from the standpoint of the removal of the tumor.

PROGRESS IN THE DIAGNOSIS AND RELIEF OF GENITO-URINARY AFFECTIONS.

By D. Y. KEITH, Louisville.

When the first kidney stone was shown by a radiogram sixteen years ago the real scientific diagnosis of numerous lesions of the genito-urinary tract was inaugurated. The progress since that time has been step by step, earned by study and hard work; not by one man or set of men but by the combined efforts of the medical profession in this country and Europe. It would not be amiss to mention here that an American physician, Dr. Leonard of Philadelphia, was the first to present a kidney calculus on a photographic plate by means of the X-ray. In the early work many cases were diagnosed as stones in the kidney or ureter which were found to be negative at operation, throwing the most valuable diagnostic aid at that time in ill repute. Many of the older operators relied upon the clinical history more than on the radiogram. If these cases could be checked to-day I am sure we would find that "poor X-ray plates" would be the most frequent explanation of the errors.

At the present time every one has acknowledged the X-ray as a positive diagnostic factor and state when they do not find a stone that "it must be there but I failed to find it" at operation.

Many of the shadows formerly diagnosed as stone would at the present time be recognized as artefacts. A few of the things that would simulate stone are, phleboliths, small fecal bodies, calcified glands, old inflammatory masses of connective tissue formations; especially is this true of shadows in the pelvis. Many shadows are so characteristic that a good radiogram is positive evidence. Quite a number can not be diagnosed without the cystoscope and radiographic ureteral catheters. (Figure I.) This is particularly true of shadows in the pelvis where 70 per cent. of all ureteral stones are found, for it is in this region that phleboliths are so frequent.

Sanes reports a case of peri-ureteral infiltration that cast a shadow which was proven by vaginal operation. When a shadow is seen against the ureteral catheter the diagnosis is usually positive of a calculus. A stereoscopic radiogram would absolutely be positive, for by it we get the third dimension i.e. thickness or depth. In the region of the kid-

ney pelvis a shadow is nearly always indicative of a stone.



FIG. 1.—Showing value of ureteral characters. No. 1 is small stone in ureter. No. 2 phlebolith in pelvis. No. 3. large in the right ureter. catheter would not enter ureter.

Cause of Kidney Lithiasis. The accepted theory to-day is stagnation of urinary flow accompanied by infection. Stagnation may be due to kinks, twists, tumors or pressure from without the ureter; even pregnancy is given as a predisposing cause. I believe the time has arrived when we can say that infection is the prime factor in lithiasis. Shattock¹ reports finding organic salts in the nucleus of an Egyptian stone 7000 years of age.

Chemistry. The chemical makeup is accepted as being principally calcium-oxalate, uric acid and phosphorus pentoxid. It being very rare to find a stone that contains only one chemical element.

Kahn and Rosenbloom² reports a series of twenty-five chemical analyses of stones from different surgeons and hospitals giving an average of the following:

Calcium oxylate	67½%
Uric acid	5 %
Phosphorous pentoxid	8 %

This is an average in twenty-five cases Three cystic calculi were examined, showing only a trace of calcium oxalate; no phosphorous present; 97 per cent to 98 per cent. respectively was of uric acid; the remaining

portions being moisture. Their analyses practically coincide with reports from numerous other authors throughout the country.

Haematuria. Haematuria in the urine is considered as malignant by Braasch until otherwise proven. Haematuria may come from irritating drugs, turpentine, etc., stone, tumors, trauma, obstruction of urinary out-flow, obstruction of blood supply, abnormal renal vessels, congestion, chronic nephritis and hemophilia. We may also name essential haematuria.

By the aid of the cystoscope and ureteral catheters we are able to determine from which kidney the blood emanated, followed by a separate urinalysis will in many cases prove the etiology of the bleeding. Neoplasms give blood constantly, calculi during or after the colic has subsided: the urine being normal between the attacks of colic due to stone.

Pain. Pain is a very indefinite symptom and may be referred anywhere down the urinary tract. Ureteral obstruction even low down always gives kidney pain. After you have located the exact point of obstruction the area of tenderness is easily elicited in the majority of cases.

I doubt very much if we are correct in accepting the theory of referred pain to the opposite side from the lesion. It is my opinion there is some condition locally which gives this annoying symptom. In all cases of this character the painful kidney should be closely studied for some local lesion, be it a ureteral kink, dilated or distended renal pelvis. I am positive the time is coming when we shall be able to find some local pathology to explain this symptom. It will require a competent diagnostician to make this differentiation but it should not be given up until the cystoscope, pyelogram and renal function test have been carefully applied.

The severe colic is due to urinary obstruction but I can see no reason why the passage of a rough stone or the ureteral contractions in trying to force a foreign body down the lumen should not cause the most excruciating suffering. In many of the cases where pain is present with a negative radiogram I feel sure a very small calculus is or has been present which we have failed to detect. Small particles of renal sand are thought to be painful and irritating to the urinary tract.

Pyelography. Pyelography, which is the making of a radiogram of the kidney pelvis after the injection of collargol or some silver salt through the ureteral catheter. This gives an approximate outline of the size, shape and degree of dilatation of the renal pelvis. It was first brought into use in 1906 and has been popularized in this country by Braasch,

of the Mayo clinic. At first this was thought to be entirely harmless but numerous reports have appeared in recent literature showing the stain of silver throughout the kidney, even to the capsule. Unless done by a careful operator in selected cases much harm may be done to the substance of the kidney. Marked difference is noted in the amount of solution required in different individuals to produce pain which is the sign relied upon to stop the injection. Many cases suffer severe kidney colic after the pelvis has been injected even with a small amount of fluid. The colic is brought on by dilatation of the renal pelvis.

The greatest service rendered by pyelography is in malignancy, dilated pelvis, kinks, strictures or dilatation of the ureter; also showing the position of the ureteral orifice in relation to the renal pelvis; 75 per cent. of the renal tumors show an involvement of the renal pelvis by pyelography.

In hydro or pyonephrosis it is possible to get a distinct outline of the kidney provided the patient has been properly prepared and is not too stout. Starvation is much preferred to purgation as the patient has much less gas in the gastro-intestinal tract than when purged. To get a satisfactory kidney outline the patient must be absolutely free of gas in the intestines. Tuberculous kidney where enlarged gives the picture of hydro or pyonephrosis, tubercle bacilli being present in the urine.

Before relief is attempted a proper diagnosis is the first essential. The time has arrived when a routine genito-urinary X-ray examination is the proper procedure for diagnosis after a chemical and microscopical urinalysis. In some cases the radiogram may precede the urinalysis for the information is by far greater than that obtained by any other examination. The waxed catheter is rarely ever used as a diagnostic agent at the present time.

Treatment. In cases where very small stones are present it is thought best to give a few weeks' treatment in a medicinal way consisting of a selected diet, rest in bed and large amounts of water at regular intervals. In addition to this small doses of turpentine three to five minims three times daily is given in capsules.

When a calculus is small enough to pass through the lumen of the ureter it will be expelled if the precaution is taken to have the patient given a large dose of morphine and put in a hot sitz bath when an attack of colic is pending.

Watson³ reports a series of 54 cases treated by this line of medication; 87 per cent. of which expelled the stone spontaneously while

under treatment. All were selected cases in which the calculi were small, the size being determined by radiograms.

When the stone is impacted or larger than the lumen of the ureter treatment in a medicinal way is absolutely futile.



FIG. II.—Showing large calculus in left kidney pelvis after six months' medicinal treatment, in an effort to dissolve the stone.

In this type of case the sooner mechanical or surgical measures are instituted the quicker the patient will be cured. The surgeon whose patient is relieved by mechanical means, consisting of injections of oil or glycerine around or above the stone is very fortunate, for I doubt the efficacy of this mode of treatment unless the stone is very small or has become impacted. By dislodging a calculus of this character the ureter may be able to expel it in case it is not too rough. Where calculi are impacted in the uretero-vesical orifice the use of fulgeration and the operating cystoscope should not be overlooked.

A few cases have been reported where upon inserting the ureteral catheter in kidney lesions of pregnant women the relief of symptoms have been prompt. In this type of cases a stagnation was present in the renal pelvis of pus or urine. The patient was suffering from a pyohydro-nephrosis. This is one type of cases that should be given the benefit of a

trial at drainage by the ureteral catheter before any operative procedure is instituted upon the kidney.

In conclusion I wish to show you a few radiograms and report two cases which demonstrates the line of treatment that should, in my opinion, be instituted after the radiographic plates have been interpreted.



FIG. III.—Multiple stones in prostatic gland; also two stones in the left ureter. This patient's right kidney was destroyed, having 25 or 30 stones on that side.

Case I. Mr. J., referred to the laboratory by Dr. J. T. Windell for the location of a ureteral calculus as he had made this diagnosis on the patient's first visit to his office.

A plate over the pelvic area presented a shadow the size of a small grape, thought to be in the left ureter, a few inches from the bladder. Surgical removal was proposed by Dr. Windell after which he heard no more from the patient. Some four to six weeks later, during the fifth week of medicinal treatment by a local physician he passed a few small fragments of stone and was thought to be relieved. These small fragments were passed without any kidney colic, the only pain he experienced was in their passage through the urethra which was not very severe.

Another radiogram was suggested as I did not believe it possible for a calculus of this size to be forced into the bladder without great pain. I present the second plate to you which appears to be a duplicate of the first. I believe this will illustrate the folly of trying

to dissolve or wait for the patient to expel a stone of this size. The longer the stone remains in the ureter just that much more liable is the patient to suffer irreparable damage to the kidney above.

Case II. Mr. N. T., first seen by Dr. J. Hancock in December, 1913, suffering with pain in lower abdomen, giving a history of unsatisfactory bowel evacuation. He was sent to the hospital with a tentative diagnosis of fecal impaction. After he was given several enemas the patient was absolutely free from pain and returned to his work in two or three days. In March, 1914, three months after the initial attack, the Doctor was again called to see the patient and found him suffering severe pain in the left side of the abdomen with moderate abdominal distention. He was again sent to the hospital with the same problematical diagnosis. Similar treatment was instituted as before with very little relief, the enemas returning clear. A dose of piritritin gave some bowel action with moderate relief.

I first saw this patient on March 31, about 10:00 P. M., suffering severe pain in the left abdomen. On injection of 20 to 30 ounces of water into the bowel the patient had excruciating pain lasting until the bowel was emptied. Knowing that the patient had some four years previous been infected with gonococci the possibility of a renal or ureteral calculus, with obstruction, was suggested. The next day his bowel moved satisfactorily with only slight relief from pain, the abdomen being flat and free from distention.

Dr. Hancock then concluded he was suffering with urinary obstruction and brought him to the laboratory for an X-ray examination. A plate of the left kidney area was negative, showing a great deal of gas in the bowel. A plate of the pelvis revealed a shadow on the left side the size and shape of a small pear. In this mass was seen two very small calculi. Believing the larger mass, which was not as dense as a calculus, to be due to a very dense fecal mass, an enema was given which gave the patient such great pain that he was completely prostrated. After expelling the enema another plate was made which presented the same shadows except the larger one was not so symmetrical as the one seen on the first plate. A catheter was then introduced into the left ureter by Dr. Day when a large amount of very thick pus began to flow into the bladder. It was estimated that as much as an ounce or one and one-half ounce of pus flowed into the bladder. Another plate was then made with the shadow-graph catheter in the left ureter which showed almost complete absence of the larger shadow with two very small pieces of stone

resting against the catheter. A small amount of pus was then obtained, in a sterile container, through the catheter from which an autogenous vaccine was made. Two days later two small calculi were passed through the urethra. His temperature at this time was 101.6 F., with a pulse of a hundred. Staphylococci were more abundant in the urine obtained through catheter although colon bacilli were present.

The subsequent treatment was rest in bed, large amounts of water by mouth, vaccine and urotropin. Recovery has been uneventful: the patient returning to work in six or seven days. Dilatation of the ureter will also be given at frequent intervals to prevent ureteral stricture.

I think Dr. Hancock and Dr. Farmer should be complimented on their surgical judgment in declining to make an abdominal section upon this patient as he was anxious and insisted upon an operation for relief when first seen by them.

Before a general discussion is invited I am sure Dr. Day will be kind enough to describe the cystoscopic picture to you in case No. 2.

BIOGRAPHY

1. British Medical Journal, 1912, page 1141.
2. A. M. A. Journal, 1912, page 1221.
3. Boston Medical and Surgical Journal, Jan. 9, 1913.

DISCUSSION.

Geo. H. Day: I had never seen this patient until he was referred to me by Dr. Hancock to be cystoscoped. He had a very severe renal colic at this time. Dr. Keith showed me the X-ray plate and to my mind the diagnosis was well defined, even without cystoscopic examination; namely, stone in the ureter with diffused area about it. Upon cystoscopic examination, the bladder appeared to be normal, except that the left ureteral orifice was lacerated, as if a stone had recently passed through it, and the passage of the ureteral catheter was met by great gushes of pus, filling up the bladder so that it soon became impossible to see where the catheter entered the ureteral orifice. The catheter was allowed to remain in the pelvis of the kidney for thirty or forty minutes, after which another picture was taken which, to our surprise showed just what you see here now. Evidently the area about the stone, shown in previous pictures, had been caused by the pus. I cannot recall having seen a case of that kind before, where pus made such a dense shadow. The man had a comparatively comfortable week following this, and Dr. Hancock tells me he has been practically free from pain ever since.

This was in many ways a very unusual case, I might add that, in my opinion, this man's colic

was due to back pressure, caused by the pus occluding the ureter.

Herbert Bronner: It seems to me that such a splendid essay should not be allowed to pass without discussion. If there is one lesson it teaches us more than another it is that by team work between the radiographer and the cystoscopist, a great many obscure conditions of the genito-urinary tract may be cleared up. Just recently the doctor had a case in which I was very much interested. This case was illustrated by one of the plates he showed to-night. The plate showed three shadows, and we were certain that he had ureteral stone, but the question was, how many? We were able to introduce a catheter into the right side, and in the plate taken at that time, one of the shadows coincided with the ureteral catheter, demonstrating very clearly that this stone was in the ureter. On the other side we were unable to introduce an ureteral catheter for the reason that the stone was far down in the vesical portion of the ureter. It has been demonstrated recently that when the stone is in the vesical portion of the ureter, the cystoscopic findings are in themselves characteristic, in other words, there is so much oedema about the ureteral orifice that it is impossible to introduce the catheter. In this case, however, I have since been able to introduce the catheter as far as the stone. I wish to correct Dr. Keith in one respect. This plate was made before the introduction of oil. I introduced oil about four days ago, and some time this week I will have Dr. Keith take a picture and see what is to be found.

I was glad to hear the doctor speak of collargol, about which a great deal has recently been written. It is undoubtedly of value as an aid in the early diagnosis of tuberculosis and kidney tumors, but a number of instances of injury which have been reported recently raises some doubt as to whether it should be used in all cases. However, the information to be obtained from its use in many conditions is so important that I am inclined to believe that, provided we are very careful in our technique, it should be employed in selected cases.

Jethra Hancock: I wish to speak of the case Dr. Keith saw with me. This man had been sent to the hospital about three months previously with what appeared to me to be typical symptoms of intestinal obstruction or impaction—vomiting, distension, etc. I sent him to the hospital, telling him it would be necessary for him to be there in the event it became necessary to operate. Under the administration of enemas of molasses and milk, he obtained relief within a few hours, and I then felt sure that my diagnosis was correct. I wish to suggest here that probably the pressure employed at this time relieved the ureter of the back pressure, by allowing the urine to pass by the stone, which perhaps was not so perfectly formed at that time, and that is what gave him relief. Three months later I was

called to see him again, and this time it did not take me long to determine what the trouble was, and I immediately began to pour olive oil, glycerine, turpentine and soap-suds into him, none of which relieved him, so I sent him to the hospital again and asked Dr. Keith to see him. Dr. Keith took him to the laboratory and took an X-ray picture. The next morning Dr. Farmer saw him and it was his opinion that there must be something else besides obstruction. He had had considerable abdominal distension the day before, but when Dr. Farmer saw this was not so marked, and he believed that there was some other intra-pelvic condition that might be relieved by operation. It was with the idea of looking further for stone in the kidney that we sent him to the laboratory and had this picture made.

One interesting point in connection with this case was overlooked by Dr. Keith. When this patient went to the laboratory he was almost in a condition of shock; in fact, Dr. Hanes was considerably exercised about the man's condition. He went into the office that way, but when he came out he walked to the automobile by himself and amused himself looking at the pictures. He went back to the hospital and I told him I would see him late that evening, which I was prevented from doing and when I did see him he was suffering very intense pain. He described it as very different from the pain he had suffered previously. He described it as a "cutting pain," more severe than the other and just like a knife cutting him. I ordered morphin for him that night, and by the next morning he had passed into the urinal two stones. I am sure these were fragments of the stone passed soon after he went to the hospital. At the present time he is getting along beautifully and has gone back to work. We took a small quantity of the pus and had an autogenous vaccine made, which we are giving him now. The infection was found to be staphylococic with a few colon bacilli in it.

The general condition of the patient at the present time is splendid. No ureteral catheterization has been done since. He brings me a specimen of his urine every few days and macroscopically, it appears to be perfectly normal.

Chas. Farmer: I am very glad to have heard this very interesting paper. I had the pleasure of seeing this patient with Dr. Hancock at St. Anthony's Hospital, and at that time, while I was inclined to suspect that there was some obstruction of the bowel, still he had very little distension, no rigidity, and the only tender point was just under the ribs on the left side. The pain he suffered was terrific, and he was clamoring all the time to be cut open. He did not have typical renal colic, at least, it was not like the cases I have seen heretofore. He had no frequency of micturition, no pain radiating down the testicles and thighs, and it was very difficult to decide just what the trouble was. It would have been a very difficult matter indeed to have

made the diagnosis without the help of Dr. Keith and Dr. Day.

D. Y. Keith, (Closing): I am glad to hear Dr. Hancock make the explanation he did. I am sure that on the occasion when Dr. Hancock first saw this patient, after the ureteral abscess was drained, he passed these small stones into the bladder, and that the bladder expelled them without difficulty. This man undoubtedly had damming back of pus in the left kidney pelvis, giving him such severe pain in the left side.

I expected to hear some of the men interested in obstetrics tell what they think about the future treatment of kidney lesions in pregnant women. In the literature we found a report of two or three cases, all by the same man, and he reports instant relief and disappearance of all serious kidney symptoms of pregnancy after stasis in the kidney was drained by ureteral catheterization. In one case, a few months later, eclamptic symptoms again appeared, which promptly disappeared upon relieving the kidney stasis by the ureteral catheter. The symptoms in this case were first present about the fifth or sixth month. I would have been glad to have heard some one say what they think about the future treatment of cases of this kind, and if it is not much more preferable to drain the kidney of a woman a few months pregnant by the ureteral catheter than by opening the kidney pelvis by pyelotomy.

SOME PHASES OF ANAESTHESIA.

By J. ALLEN KIRK, Louisville.

The exacting demands of both operator and patient in the surgery of the present day have taxed the skill and resources of the anesthetist to the uttermost limits, and have caused both him and the surgeon as well, to explore all fields which give any promise of anesthetic possibility. The layman, with a somewhat exaggerated idea of the safety of modern surgical operations, disregards the potential factor of danger present in all operative procedures, but invariably seriously considers the probable risk from the administration of an anesthetic. The surgeon insists upon a period of stable anaesthesia of indefinite duration, with complete relaxation of the musculature of the patient, minimum risk, freedom from post-anaesthetic nausea and vomiting, and finally the absence of those more serious complications of the post-operative stage, which are now believed to be the direct result of the narcosis.

The selection and administration of an anesthetic should be placed on the same sound, scientific basis as asepsis or the practice of surgery. Surgeons who work with regular anaesthetists should be in close relationship with the anaesthetist, and should

consult with him regarding the selection of the anaesthetic and the best method of administration, especially in the so-called "surgical risk." It is in these cases where his judgment is of great importance, so that he may adapt to each phase of the patient's condition the most suitable anaesthetic. As the anaesthetist is responsible for that part of the work he should be allowed the privilege of consulting with the surgeon. The surgeon may be likened to the captain, the anaesthetist the pilot, and the patient to the ship. The captain must of necessity depend upon the pilot to steer the ship into and through the darkness of oblivion, back to the light of consciousness. It is the pilot who, seeing the shoals and sandbars and realizing how near they are to disaster, questions the chosen course. The experienced pilot is much better able to cope with the situation than the inexperienced, and yet he too, although seeing danger ahead, may not be able to escape because the undercurrent, which is the method of anaesthesia employed, is beyond his control.

Before going into the discussion of the relative advantages of the different methods of anaesthesia I wish to emphasize a point which is commonly regarded as a preliminary to anaesthesia, but which is in itself a most important integral part of the anaesthetic itself. This is the preliminary use of the alkaloids. The administration of the alkaloids before anaesthesia is of great importance and may be considered from at least three points of view, namely; the patient's, the anaesthetist's, and the surgeon's. The three alkaloids usually employed are morphin, scopolamin, and atropin. That there are advantages in the preliminary use of the alkaloids no one will question, but the disadvantages must not be lost sight of. The advantages claimed for the use of the alkaloids are as follows; less anaesthetic is required, glandular activity is diminished, thereby reducing the danger of pneumonia, there is less vomiting before and during anaesthesia, therefore a smoother narcosis, and also less postoperative vomiting. The patient enters the operating room in a quiet and sleepy manner, and the apprehension of impending danger is lessened. The stage of excitement is less pronounced, the patient remains asleep after the completion of the operation, therefore less pain. The disadvantages of preliminary medication may be summarized as follows; destruction of pupillary reactions, varying effects of the drug, and habit forming. This preliminary is not given to infants, to the aged and to those whose psychic processes are already sufficiently depressed.

The most prevalent method in this country of anaesthesia are, ether, nitrous oxide and

ether, and nitrous oxide and oxygen in conjunction with anoci-association. The fact that ether induces unconsciousness with comparative slowness has led to the primary use of nitrous oxide gas for two obvious reasons; first, that the stage of primary anaesthesia might be made exceedingly brief. This is particularly advantageous since under these circumstances the patient does not suffer from any of the disagreeable sensations when the drug is first inhaled, time is saved and struggling is avoided. There can be no doubt that the primary use of nitrous oxide is very wise for the large proportion of cases for this reason. Its safety, the speed with which it acts, and the slight influence which the gas exercises upon the vital functions permit ether to be given with confidence after anaesthesia has developed. Second; less ether is required thereby greatly minimizing the deleterious post-operative effects such as post-operative vomiting, gas pains, and the later complications of pneumonia and nephritis. Now as a matter of fact the graver post-operative complications are not present very frequently after good ether anaesthesia. It is only when one studies the smaller group of handicapped individuals and the graver operations that the difference becomes more evident.

Nitrous oxide was introduced as an anaesthetic in 1844. In 1868 Edmund Andrews of Chicago used a mixture of nitrous oxide and oxygen for a continued anaesthetic. Since then it has been in general use by dentists and occasional use by surgeons, until recent improvement in technic and apparatus have rapidly increased its use in general surgery. Nitrous oxide owes its anaesthetic property largely, perhaps entirely, to its diminution of the oxygen supply to the brain, or at least of the use of oxygen. The inhalation of pure nitrous oxide alone causes phenomena resembling asphyxia and speedily causes death. By whatever method nitrous oxide produces anaesthesia it can be wholly controlled by the use of oxygen. The state of the anaesthesia can be altered from the slightest to the deepest by oxygen. The percentage of oxygen controls absolutely the degree of anaesthesia, not only controls it, but does so most delicately. The pressure of the gas inhaled is another big factor of importance. Increasing the pressure in the face mask augments the anaesthesia, the gas should be given with a definite and constant flow. Crile says in his article on nitrous oxide anaesthesia in Keen's Surgery, that the role of oxygen in gas anaesthesia is that of a pilot light, just enough oxygen should be given to keep the flame of life safely burning. Turn up this flame, the patient immediately comes out of the anaes-

thetia, turn down the flame, he is too deeply submerged, turn it out he dies. He further states that if the initial anaesthesia is pushed too rapidly stertorous breathing may appear, accompanied by cyanosis, muscular twitching and even wide-spread muscular contraction. In the Lakeside clinics the best results are obtained by inducing anaesthesia gradually. If during the establishment of the anaesthesia the respiration becomes too rapid and too deep the nitrous oxide should be at once decreased, and for a minute or two ether vapor should be turned into the oxygen stream. The respiration flurry is at once allayed and the nitrous oxide may again be turned on. The most important points in the administration of nitrous oxide anaesthesia are the respiration and the color of the patient.

Now in consideration of anoci-association it is important to thoroughly understand its purpose which may be briefly summed up in "the prevention of shock." Shock, according to Crile and the most advanced ideas, is due to the histological changes in the chromaffine matter of the Purkinje cells of the brain. It is a matter of common knowledge that any general anaesthetic produces anaesthesia of only a portion of the brain. The first effect is superficial sensory paralysis, then motor, then deep sensory, then pushed more deeply the paralysis of the vital centers of the bulb. Up to the lethal administration the higher center of sensory perception for pain are not anaesthetized. That is to say the Purkinje cells suffer the change in chromaffine matter, but because the systems of communication with the external world are paralyzed they cannot make themselves recognized. It is therefore essential that we prevent these noxious sensations from reaching the subconscious centres and damaging the Purkinje cells. This can only be done by seizing the evil at its root, that is blocking off all the afferent sensory impulses as we go along. This is best done by using novocain and quinine urea hydrochloride.

SUMMARY.

The effect of the anaesthetic must be considered in three phases; that before the operation, which is psychic, due to fear, toxic and traumatic due to pathological condition; that during the operation which is toxic and traumatic. These factors may continue after the operation. The first phase is controlled by the preliminary use of the alkaloids, the second phase may be controlled by the method of anaesthesia used together with the local anaesthetic. The third phase or the post-operative is well controlled by the preliminary medication, the method of anaesthesia, and the anoci-association.

DISCUSSION.

Curran Pope: If no one else will discuss this paper from the strict standpoint of the subject, I will try to discuss it from the psychical standpoint of the individual.

I have asked quite a number of individuals that have come under my observation following various surgical procedures, what possessed the greatest terror for them the greatest fear, and they have almost invariably replied that it was the anesthetic. It is surprising how many individuals feel this way with respect to anaesthesia. It is rather a peculiar psychological problem when one stops to consider the history of surgery. We know that in the beginning the operating room resembled a charnel house—a room filled with screams, cries and horrors that no words can describe nor pen can picture, and it was through the introduction of anaesthesia that the entire field was changed from the frightful, dreadful pre-anaesthetic scene to the calm and quiet and freedom from suffering that characterizes surgery under anaesthesia. So, at first blush, one would be inclined to think that patients would rather welcome the thought of anaesthesia during an operation rather than regard it with fear and dread. It has seemed to me that, underlying the dread of anaesthesia is, not the risk entailed by the anesthetic itself, but rather the idea of helpless unconsciousness—that is to say, an inability to wake under ordinary stimuli from a sleep that may perhaps be a sleep that knows no awakening. This feeling of utter helplessness, utter inability to return to consciousness, coupled, probably, with the thought of death, has, in my opinion, a great deal to do with the fear inspired by anaesthesia. We all know that death is one of the still unsolved riddles—the Sphinx of Death has never given up its riddle and probably never will, and it is this uncertainty and fear of unconsciousness, together with the thought of death, that tends to inspire the dread of anaesthesia. There is no question but what these individuals, when they begin to assume this attitude, revert, in large degree, to an infantile state of mind. We know that the infantile mind peoples darkness with horrors and premonitions, and when the individual in his fear, or pre-shocked state, if I may so term it, reverts to his infantile memories, he loses the calmness and self-control that would ordinarily be present.

What is shock? I do not mean the symptomatology that is present, but what is the underlying principle that governs shock? Shock is really pain inflicted without warning. Just as fear is the anticipation of pain, or of a change from a certain state to a worse state, so shock is pain inflicted without warning. Reaction to shock always causes a reversion to the infantile; that is to say, the individual tends to revert to those functions and those conditions, both physical and psychical, that are infantile, and in this state he

becomes unwilling and unfit to undergo an anesthetic. We know that other neuroses are based on primitive functions, instincts and ideas, and here we have an individual literally suffering from fear of anesthesia. The state of pre-shock is really that of a child suffering from a mild neurosis. What a man really fears is himself, because his inner, primal nature is that of which he knows least, and which may seize and completely control both his body and soul. Thus an individual may be a hero in his cortex and a most arrant coward in his pons and solar plexus. As Shakespeare so beautifully said, "A coward dies a thousand deaths; a brave man dies but one." Therefore, the man who can best adapt himself to the needs and weaknesses of the individual on the table, who understands folk-lore and its influence upon the human race, and who is familiar with the history of anesthesia, is the one who is best suited to give anesthesia.

C. H. Harris: You say that the individual fears himself. I would be glad if you would elaborate upon that somewhat.

Curran Pope: The individual does not literally fear himself in the way intimated by Dr. Harris, because he does not realize that he fears himself, but in his unconscious mind there are stored hundreds of infantile memories that control him and which, upon analysis, we will find are the roots of all fears, of whatever type. Fear is an infantile condition at all times; the origin of all morbid fears can be traced back to infancy. Therefore, what the individual really fears is what is in his unconscious mind, consequently what he unconsciously fears most is himself, just exactly as the mysophobic, fearing contamination, does not really fear the microbes and contamination of which he speaks but the unconscious repressed thoughts. This fear is simply the idea arising out of a particular soul conflict that has taken place, and if we will delve into it deeply enough, we will find that it has its origin in something of which the individual is absolutely unconscious. All fears arise from memories stored in the unconscious mind of the individual and what he fears most is, not the anesthetic, but himself, and this is true, not only in connection with anesthesia, but of all the other fears of life.

Geo. A. Hendon: I was particularly interested in that portion of the paper with respect to preliminary alkaloids as an integral part of an anesthetic. I have had some experiences recently which have given rise to grave doubts in my mind as to the practicability and safety of the administration of alkaloids prior to the anesthetic. These experiences, two of which impressed me very deeply, were connected with ether anesthesia. The patient was given a preliminary hypodermic of 1-4 grain of morphin and 1-150 grain of atropin, and the ether was administered by a gentleman who, while quite an

accomplished physician, is not a trained anesthesiologist. The operation, consisting of a cystotomy, proceeded without event; the gallbladder was opened and drained, and the entire operation, including the toilet, consumed probably an hour, at the end of which time the patient was returned to bed. About two hours later I was informed by telephone that the patient was breathing improperly and irregularly. I returned to the hospital and found the patient breathing about eight times a minute, with contracted pupils. This condition continued for seventy-two hours, at the end of which time the patient died. I was not present during all of the subsequent events, as the operation was done in a town some distance away and the patient was left in the hands of her regular physicians. They employed artificial respiration and used oxygen, and did all the things usually done in emergencies of this type, (except that there was no pulmotor available) yet the patient went along and died, without any elevation of temperature, and without any complications concerning the field of operation.

The other case started out about the same way but had a more fortunate termination. An hour or two after being put back to bed this patient showed signs of irregular and improper breathing; the pupils were contracted and the pulse was slow. She also had been given 1-4 grain of morphin and 1-150 grain of atropin prior to the anesthetic. By practicing artificial respiration, using the pulmotor, the patient survived. Whether the pulmotor turned the tide in her favor I am unable to say. The operation in this case was a simple appendectomy in the interval between attacks, consuming not more than thirty minutes. The anesthetic was ether, and was given by a trained anesthetist.

These two experiences seem to be to be sufficient to raise in the minds of thoughtful persons some doubt as to the advisability of administering alkaloids prior to the anesthetic. I wish to say, however, that I have nevertheless continued to use alkaloids as a preliminary to anesthesia and have had no trouble since then, but instead of 1-4 grain of morphin I give 1-8 grain. I do not believe in making a routine out of anything. There are several very good practices that I have not employed in my work on every occasion, simply to prove that I did not have to do it. Habit and routine are very dangerous things, especially for surgeons. Every case is carefully looked into with reference to the preliminary administration of drugs, and those that are not fit to receive morphin are not allowed to have it. For instance, I do not give preliminary alkaloids in prostatectomy cases. I do not believe they are indicated and there are obvious reasons why they should not be given. I would like to hear some of the members who have had more experience than myself discuss the subject from the stand-

point of the preliminary administration of alkaloids.

Edward Speidel: I would like to have heard the essayist touch upon one phase of anesthesia which I have never heard included in papers on this subject; that is, what is known as obstetrical anesthesia, administering the anesthetic during the labor pains and withholding it in the intervals. I would like to know just how much the brain cells are involved in that form of anesthesia, and furthermore, whether it is as safe as it is generally supposed to be. I have never known it to result fatally in my own experience or that of any of my colleagues, but knowing how dangerous it is to have incomplete anesthesia in surgical cases, I have sometimes wondered if the same danger is not present in giving anesthesia in this way in obstetrical cases.

J. A. Kirk, (Closing): In regard to Dr. Hendon's remarks, I did not mean to be understood as advocating the routine use of alkaloids prior to anesthesia.

As to Dr. Speidel's question regarding obstetrical anesthesia, I am as much in the dark as he is. It is the general belief now that either ether or chloroform should be given continuously; in other words, the patient should not be given an opportunity to come out and then be re-anesthetized.

G. A. Hendon: Have you ever seen any effects such as I described?

J. A. Kirk: I have not. I had one very unhappy occurrence in a man who died four hours after anesthesia. He had been given a preliminary dose of 1-6 grain of morphin and 1-150 grain of atrophin. Ether was the anesthetic administered and he took it very nicely. He was put to bed at twelve o'clock. At two o'clock he rallied somewhat, but remained in a semi-conscious condition until four, when he suddenly gave a few gasps and was gone.

G. A. Hendon: Was there any irregularity or slowness of respiration?

J. A. Kirk: No, sir. A post-mortem seemed to indicate that he died from the effects of the ether, just as if he had taken it hypodermatically. There was no dilatation of the heart.

Staphylococcus Sepsis.—Jacob has encountered in the last two years eight cases in only three of which the course was of the classic type with osteomyelitis, a paranephritic abscess and severe bacteriemia. In the others, the primary focus was in the tonsils, the intestines or bronchiectasia, and there was no suppurative metastasis which is the rule in 95 per cent. of such cases. Two of the patients died. This experience teaches the importance of bacteriologic examination of the blood and urine in dubious febrile cases, and shows that if it were more of a routine procedure mild forms of sepsis might be discovered oftener.

THE SURGICAL TREATMENT OF CANCER.

By R. LINDSEY IRELAND, Louisville.

The treatment of cancer resolves itself into operative measures, although we are glad indeed that very interesting experiments are being carried out by many scientific men, some of which research work has some of the earmarks of some success in certain types of malignant disease, or at least the reports with which the medical press is teeming these latter days arouses within the surgeon and medical man alike, the hope that upon further development and perfection at least some of the many measures now being experimented with, may prove as efficacious as our fondest imagination could hope for; but as yet the opening sentence of this article is accepted as fact by the closest students of this wide spread malady of the human race.

At the meeting of the American Surgical Association held in New York City two months since, Dr. Wm. J. Mayo selected for his presidential address the broad, but always interesting subject of Cancer. In orderly array, like the great surgical general that he is, he marshalled the salient features, which are known to be the chief causative factors in cancer, and stated that the greatest stumbling block to the success desired in treatment of cancer, which is essentially surgical, was the frequent lack of an early diagnosis. Dr. Mayo drew attention to the very comforting fact that the radiologist had been able to make a definite diagnosis in a much larger percentage of cancers of the stomach than all other means combined and since early and positive diagnosis is so exceedingly important in this disease we should by all means make use of this most valuable method of diagnosis in all suspected cases of cancer of abdominal viscera.

If, in this paper, a word concerning the cause of cancer may be permitted, I would say that to-day it is about as much a mystery as in the days of Hippocrates; at times light seems about to burst through the cloudy horizon of mystery when a few more days of investigation but cause the same dark impenetrable clouds of mystery to gather closer together than ever.

Unlike the great Sphinx of the desert, the crab-like cancer-sphinx has not yet yielded up its secrets to science. Notwithstanding the fact that scientific and skilled men all over the civilized world are bending their every energy at diligently boring into the vitals of this disease-monster, it has baffled all their combined skill as though it were invulnerable, but ere long I dare say, a projectile of a mighty modern scientific ordinance piece

will penetrate the armor plate of this oldest and deadliest of dreadnaughts.

In dismissing its cause and other means of treatment and taking scalpel in hand as it were, we do it with profound veneration, for this method of the treatment of cancer from remote antiquity to the present moment has stood the test of attack and time.

Throughout the ages, surgical removal has been advocated, not entirely by consensus of opinion, but by a sufficient number of the tried and true, both in clinical experience and by pen, to cause it to be the Gibraltar among methods of cure of cancer.

In an Indian manuscript written two thousand years B. C. surgical removal of cancerous growths was advocated, according to history, and all along the devious path of medical and surgical progress, surgery has been advocated as a means of relief from cancer.

Celsus, in the first century of the Christian era, and Galen, in the second, and DeMondeville, one of the greatest representatives of the Montpellier school of medicine in the fourteenth century, taught radical excision, "leaving not the smallest particle of infected matter behind," and "even cutting out the roots."

Surgical technic in its general principles is the same wherever applied. There are, however, some special principles to apply to cancer surgery and their lack of employment may be attended with dire results.

The manner of extension of cancer is not entirely agreed upon by surgeons and pathologists.

We may or may not accept the auto infectivity of cancer, but experiment and observation has proven the ease with which cancer may be transplanted in the same host.

Hence instruments coming in contact with cancer tissue during the course of an operation should not be used in healthy tissue without reesterilization.

Unless for purpose of getting a section for immediate microscopical examination the cancer tissue should not be incised and thus nature's barriers left intact.

Every care and effort should be put forth in an earnest endeavor to remove all cancerous tissue, and en masse, if possible, for as Paine and Nicholson in their experimental researches have demonstrated, cancerous tissue left in situ develops much more rapidly than the original mass on account of the increased blood supply.

Operation, according to Handley should be in line with the fascial planes. Manipulations of cancerous tissue should be avoided as much as possible during operation lest cancer cells be milked out into blood and lymph channels.

Dissection of tissues especially lymph channels should be made toward the cancerous mass, this can be applied especially in amputation of mammary glands.

Irritation of tissues both during and after operation should be avoided as much as possible, hence use hot gauze packing whenever possible to control hemorrhage from small vessels instead of a great number of clamps, for the devitalized tissue where forceps have remained on a good while, is more prone to undergo cancerous change than is normal tissue, likewise when drainage is necessary use rubber tissue instead of rubber tubing.

Always endeavor to cover surgical area with skin and avoid if possible undue traction or pressure on same and leave under skin a good part of fat which is nature's buffer and lessens subsequent irritation.

The writer agrees with Cheyne, in this respect, who has written considerable on the subject; he tries to avoid large scars and the necessity for skin grafting.

It is quite remarkable how skin denuded areas, that seem impossible to do so, may be covered by cuticle by dissecting up contiguous skin and sliding same over raw surface. The tension on skin approximation sutures may be relieved by mattress relaxation sutures under which soft gauze pads are placed which, being resilient, will not cut off circulation or cut out; and over all, long strips of adhesive plaster may be placed, taking still more tension off sutures and thus making possible the seeming impossible: viz. covering denuded area with skin and getting union by first intention.

The application of surgical measures to cancer should have the following definite purposes: 1st, Prevention; 2nd, Diagnosis; 3rd, Early and complete extirpation, which means cure.

In regard to prevention I refer to well known precancerous tissues such as pigmented moles, and some benign tumors of the body especially exposed to irritation, adenoma of female breast for instance, papillomata, myomata, naevi, bad scars, keloid, elevated angiomas, ulcer of stomach and intestines or elsewhere, gall-stones, areas of tissue wherever situated that are subjected to chronic irritation, either the irritation or the tissue should be removed.

Keen was perhaps the first surgeon some twenty or more years ago to call specific attention to this matter of irritation as an exciting cause of cancer and as time goes on it is recognized more and more as a fact.

A few more lines concerning the early and complete removal of cancer and I shall draw this incomplete study of The Surgical Treatment of Cancer to a close, hoping that I may

have said enough to suggest to the minds of those present, thoughts that may be elucidated in the discussion.

Since it is commonly accepted as a fact, that cancer begins as a purely local condition and is entirely removable at some time it is certainly within the province of surgery, if thoroughly applied at this time, to entirely cure it.

While as I have several times stated in this paper that the removal must be thorough and extensive, by that I mean go beyond even suspected tissue whenever possible, I do not wish to be misconstrued and would condemn the ruthless sacrifice of nerves and muscle of other tissue, particularly if such would destroy function or render appearance unsightly. So that just how far to go into normal tissue in the removal of malignant tissue is a question of the utmost importance. Here especially is where experience is most valuable.

Bainbridge says, "The inexperienced operator cannot always recognize that fine line of distinction between diseased and normal tissue, ability to judge of which constitutes the imponderable, unteachable element of diagnostic skill that comes only with long and careful experience. It is necessary of course to develop in cancer operations, as indeed it is in most surgical conditions, that invaluable possession that skilled surgeons attain and the other hope to attain, the *tactis eruditus*, as it is mainly the feel of the tissues that determines the surgeon in his procedure.

He is, to be sure, aided in this differentiation at times by sight, and I wish it were possible for me to describe just how cancerous tissue looks and feels, but to do so would make me immortal, hence I leave that for you.

Previously in this paper I have referred to the great amount of research work that is being done in laboratories all over the civilized world which I wish to commend and would do all in my power by whatever means in my possession to further and encourage, but it seems to me that what we need perhaps most of all is not to let the comparatively few do all the work having for its ultimate aim and purpose the prevention or cure of cancer but that every one practicing medicine and surgery should be more alert and start a campaign of education among ourselves and the laity, similar in scope and character to the beneficent one that is being so energetically and judiciously conducted now against the great white plague, tuberculosis.

We could begin by having the subject of cancer more frequently on our programs in our medical societies, both local and state. There is precedent for this suggested campaign, for five years ago the State Medical Society of Pennsylvania appointed a commis-

sion with instructions, "To study, as far as possible, the cancer problem in the State and to employ whatever measures might seem practical with a view to educating the profession and the people so that the disease may be more often recognized and treated early."

This commission has directed its greatest efforts to grasping every opportunity possible to impress on the medical profession throughout the state the paramount necessity of being always on guard against the possibility of cancer and to the importance of either excluding its presence if there are suspicious symptoms or else if the diagnosis is either certain or probable to insist on proper surgical treatment." Also two years ago at the meeting of the Clinical Congress of Surgeons a similar committee was appointed with instructions, "to take up educational work concerning cancer as actively as possible."

There is also a special medical society in New York City acting along similar lines.

A perusal of the programs of recent medical society meetings and contents of journals also will show the recent activities along this line.

Childe, of Portsmouth, England, in his recently published book on cancer, states that "cancer is the most curable of all chronic diseases," when subjected to proper surgical procedures early in its appearance. Thus it is like tuberculosis in its wide spread prevalence and high mortality and also like tuberculosis, in that to be cured the proper measures must be instituted early.

Childe further states "that the trouble is not that we are unprovided with conditions which should be ample to forewarn the public and medical profession, but the great cause of our present difficulty lies in the fact that neither of them is sufficiently alive to the significance of these early symptoms." Continuing he says, "The necessity at present is not to wait for further discoveries from laboratories, but to be in position so that both the medical profession and the public will be able to take immediate advantage of facts already known."

As previously stated the need is for a campaign of education on much the same basis as that which has already been so successful in tuberculosis.

DISCUSSION.

A. D. Willmoth: I think this is one of the best papers this society has had for a long time, and at the outset I wish to thank Dr. Ireland for it. The subject is one of the most important that could possibly come before the society, for many reasons. First, if we are correctly informed, cancer is far more prevalent to-day than it was a few years ago. I believe one of the Committees referred to by the essayist has made a

report to the effect that cancer is five times as frequent to-day as it was five years ago. Whether this increase is real or only apparent is a question. It may be that vital statistics gathered in certain sections of the country where the causes of death have been more accurately recorded than in others, have led them to believe that it is more prevalent. Certainly, it is more prevalent in some areas than in others. Dr. McGuire, as all of you know, has made the assertion more than once that there are, in the State of Virginia, more cases of cancer than of tuberculosis. Men who have had experience in that State will tell you that cancer is one of the most common conditions that go to make up its vital statistics.

Cancer is so very common, not only in the human race, but in other animal and plant life, that it is becoming a very live question in the field of chemistry, as to whether there is any relationship between them. It has been shown by Government chemists that the ordinary sugar beet develops a sarcoma identical, as far as can be determined, with that which develops in the human being. It has also been shown by Government men, in connection with the Fisheries Department, that certain types of fish are destroyed, in spite of every effort to prevent it, by certain varieties of cancer. If all this be true, then it becomes a very important question as to how, when and where we come in contact with certain conditions—we know not what at the present time—that excite the growth of cancer. However, certain facts have been established in connection with this disease which give us something to work upon in the way of obtaining the best results in combatting it. The first is, of course, early diagnosis. If we can bring the public to realize that one in every five women, who attain the age of forty-five or fifty years will die of cancer, it will soon become a subject that is frequently discussed among the women, and they will become educated to the point where they will no longer carry a growth on the breast until it is very large before even telling the members of their own families about it, but will seek medical advice and do it early.

It will be remembered that in Bloodgood's report some few months ago on the subject of cancer, he dwelt almost entirely upon the fact that in the beginning, cancer is a local condition, and that from thirty-five to thirty-seven per cent of cases have their origin in benign growths, and that there is no doubt that all of this thirty-seven per cent are curable by operation if seen in their incipiency. Of course, there is a possibility that the same conditions which produce the first growth might produce a second one, but we could certainly relieve them of the present growth which has within it the possibility of becoming malignant. Every surgeon has seen fibroids, originally benign, that have taken on car-

cinomatous or sarcomatous degeneration, destroying the patient's life within a very short time.

Dr. Ireland's paper is a very timely one because it will cause us to think about this subject, and we, in turn, should cause the public to think. If we will put the question to the public fairly and squarely, we will soon educate them to the point where they will have every benign growth removed. If we will tell the public that thirty-seven out of every hundred of such growths will in time become malignant, but that every one can be cured if taken in the beginning, they will soon become educated to the point of having them removed early. It is purely a question of education.

I am not a laboratory man, and if I were, there is probably not a sufficient number of cases of cancer in this city to enable one to determine whether or not very much can be accomplished in the way of treatment of cancer. As Dr. Ireland said, many forms of treatment have been suggested which will later on be proven to be of no value so far as the cure of cancer in an advanced stage is concerned. Radium now holds the center of the field, and probably next in importance is electricity, using as high as 45,000 volts. It has been demonstrated, I believe, that cancer can be relieved in this way, but how long it will stay away is a question.

If we will pursue the same course in connection with cancer as with tuberculosis, talking about it every chance we get, we will arouse the public to the point where they will fear cancer, and in a short time every little growth will be exposed to the physician at a time when it can be removed, a section made, and positively determined whether we are dealing with a benign or a cancerous condition.

A. C. L. Percefull: I have enjoyed Dr. Ireland's paper very much indeed. We ought to have more of these practical papers.

After all has been said that can be said upon the subject of cancer, the whole question resolves itself into two things; namely, early and positive diagnosis, and early and thorough removal of the growth, without dilly-dallying with treatment of any kind.

F. T. Fort: I wish to emphasize what Dr. Percefull has said in regard to early diagnosis. Furthermore, we should endeavor to impress upon the general practitioner the importance of making a thorough examination of all patients who present themselves. I recall the case of an old woman in whom I diagnosed cancer of the uterus. She did not like my diagnosis and I did not see her again for some time. Then she came back to me and said that she had consulted another doctor who told her she looked all right and did not have a cancer. He treated her for a while and she went to another doctor, who did not make a vaginal examination. It was in March that I first saw her. In November she went to a third

doctor who made a vaginal examination and diagnosed cancer of the uterus, well advanced. She came to me again a month later, but at that time the case was inoperable. Two weeks later she went into coma and died within a week. I recall another case very similar to this one. I believe that when any woman who has passed the menopause and has any sort of vaginal discharge presents herself, the doctor is derelict in his duty if he does not make a thorough vaginal examination, and if he finds a condition which he does not understand, he should give her the benefit of the doubt and have a specialist examine her. Unless we can get the medical profession to realize the importance of early diagnosis of these conditions, there is no use in trying to get the laity to co-operate with us. In Germany, if my information is correct, many women have adopted the practice of presenting themselves for examination once every year after they have passed the menopause. If this were a universal practice, many lives would be saved that are now needlessly sacrificed.

Hugh N. Leavell: Dr. Ireland has given us a very timely paper and it contains facts for us to think over. The early diagnosis of cancer is not always an easy matter. While the recognition of pre-cancerous conditions is not especially difficult, if we tell these patients that they have a condition which may lead to cancer, it will upset many of them both mentally and physically, and they will often consult some one else who is willing to give them the benefit of the doubt, and as a result of this dilly-dallying, the condition soon becomes such that "one who runs may read."

Better than the early diagnosis of cancer itself is the early diagnosis of conditions which may be exciting causes of cancer. We know that a cancer cannot grow in healthy tissue, and it is a good plan to remove every growth as soon as possible, whether it is cancerous or not. How many of us can make a positive diagnosis of cancer of the stomach? We not infrequently hear some one say that he had an ulcer of the stomach and Dr. So-and-so cured him. How can any one know that he has cured an ulcer of the stomach? As a matter of fact, a great deal of cicatricial tissue has formed at the site of the ulcer, and what is that but a pre-cancerous condition? The patient is allowed to go thinking he is entirely cured, and yet he has an old cicatrix which is one of the finest breeding places for a malignant condition that a person can have. I do not believe anyone can say positively that an ulcer of the stomach has been cured until he has opened the abdomen and inspected it, and, if possible, obtained a section and looked at it under the microscope. It seems to me that an exploratory incision should be made in practically every case where there is any doubt as to the diagnosis, rather than to wait for a malignant condition to develop and involve possibly a third of the stom-

ach, and then call it an early diagnosis. Not early diagnosis of cancer itself, but the early diagnosis of pre-cancerous conditions and their prompt removal is the solution of the problem.

R. Lindsey Ireland, (Closing): Dr. Willmoth stated that from thirty-five to thirty-seven per cent. of benign growths become malignant. That figure is about right for growths throughout the body generally, but in certain portions of the anatomy, as, for instance, the breast, from sixty to sixty-five per cent. of tumors are either malignant or will become so.

I agree with Dr. Leavell in regard to the necessity for making diagnosis of precancerous conditions. I endeavored in the paper to lay stress upon the fact that practically every benign growth should be removed, rather than to permit the patient to go along and develop a cancerous condition and then remove it.

A campaign of education on this subject, similar to that we have had in connection with tuberculosis, is exceedingly important. I need it; you need it. If these things are not called to our attention from time to time, we are not apt to give them the thought and attention they deserve. I am sure every man here knows more about tuberculosis than he did a few years ago as the result of the campaign of education along that line. Members of the medical profession, as well as the laity, derived benefit from it? Likewise, if we will inaugurate a campaign of education on the subject of cancer, after the manner suggested in the paper, I feel that it will do a great deal of good and save a great many lives.

New Combined Method of Prostatectomy.—An incision is made into the bladder under spinal analgesia, and as soon as the bladder is emptied of fetid urine, Thomas pours about an ounce of pure tincture of iodine into it, then drains perineally after injecting tincture of iodine through the meatus along the urethra into the prostatic bed. The patient is lying on his back as in the ordinary suprapubic operation during the whole of its performance, the perineal opening being made on the point of the forceps passed transvesicically from above, while the legs are simply spread apart in order to see and to cut on the projecting end of the forceps under the skin. The enucleation is done by the forefinger in the bladder, but frequently Thomas passes the other forefinger into the perineal opening to assist the enucleation from below as in the ordinary perineal prostatectomy. The pouring of pure tincture of iodine into the bladder before the enucleation is started he claims is of great importance, because as soon as fresh raw surface is made in the process of enucleation the tincture follows into every hole and corner. The injection of the tincture along the urethra also ensures a cleaner urethra and further floods the freshly made "prostatic bed."

CLINICAL CASES

REPORT OF OBSTETRICAL CASES.

By EDWARD SPEIDEL, Louisville.

FRANK BREECH PRESENTATION IN A PRIMIPARA, WITH DELIBERATE FRACTURE OF THE HUM- ERUS AND A LIVING CHILD.

This patient, the wife of a physician, a primipara, had her last period on March 29th, 1913, and was due on January 5th, 1914.

I was called to see her the first time, on January 6th, and by abdominal palpation, auscultation and vaginal examination, diagnosed a vertex presentation. On January 16th the husband of the patient telephoned me at 8 A. M., that labor pains had begun at 2 A. M., that there was but little progress so far, and to telephone him in two hours. I called up one and one-half hours later and was told to come to the house at once. Upon my arrival I found the scrotum of the child presenting at the vulva. Preparations for delivery were quickly made and the patient brought cross-wise of the bed. The breech came out very slowly and I soon noticed that the legs were extended along the body. When the trunk of the baby had been delivered, palpation of the cord showed interference with the circulation. The posterior arm was quickly delivered, the anterior arm, however, had become extended, rotation posteriorly could not be performed and I realized that delivery would have to be completed quickly to save the life of the child. In consequence I forced the arm of the child downwards and could tell at once that I had fractured the humerus and so informed the father. The head of the child was quickly brought and the baby resuscitated. Dr. Irvin Abell was called in to attend to the fractured arm and under his skillful treatment perfect union and mobility were secured.

This is the first birth fracture that I have had in my practice, and in this instance it was done deliberately as it seemed to be the only way to secure a living child.

DeLee in his late text book on Obstetrics, relates two cases in which he deliberately fractured the humerus, in order to deliver living children.

As is well known, breech deliveries are less frequent in primipara, than in multipara and the simple or frank breech with legs extended along the front of the body is less frequent than the complete breech in which the legs are flexed in the normal attitude. The full breech is a poor dilator of the pelvis passages, the frank breech secures even less dilatation on account of the smaller surface forced through the pelvic passages. It can then

be understood how little room there would be in the vagina of a primipara at the end of such a breech delivery for the manipulations that determine the successful outcome of such a labor and in this instance will support the claim, that it was justifiable to proceed in the manner shown.

If the original diagnosis made when the patient was first seen on January 6th, was correct then this case again proves as in a number of others that I have seen, that the presentation of the child can change in the last week of gestation.

CASE II.—ECLAMPSIA, WITH IMPACTED TRANS- VERSE PRESENTATION.

This patient was seen with Drs. Asbury and Chapman, of Turner's Station. The patient, a primipara 23 years of age, was about full term on April 4th, 1914. Labor began at 2 A. M., with violent convulsions. Both physicians were called and gave the patient all possible attention to control the convulsions and to effect a delivery. A high forceps was attempted and then a version, without success. I was notified at 1 P. M. and reached the patient's house at 7 P. M.

The patient was being kept under chloroform to control the convulsions. Abdominal palpation showed a transverse presentation, with the uterus firmly contracted down on the child, the membranes having been ruptured since early in the morning. No fetal heart sounds could be heard and it was evident that the child was dead. A vaginal examination showed a prolapsed arm and shoulder forced down into the entrance of the pelvis. After proper preparations had been made, bringing in a firm kitchen table, anesthetizing the patient and cleansing very thoroughly with soap and water, delivery was effected by first returning the prolapsed arm into the uterus. The umbilical cord palpated at the time showed no pulsations. A foot was then grasped, but could only be drawn a few inches out of the firmly contracted uterus. The foot was firmly caught with an hysterectomy forceps, a noose of bandage was placed over this higher up on the leg and with firm traction on the forceps and the bandage sling, delivery of the breech was effected. Further delay was caused by the fact that the other leg was extended along the body of the child. The shoulders offered but little difficulty in delivery, but the head could not be brought down by the Smellie-Veit manœuvre. Axis traction forceps had to be applied high up in the pelvis to the aftercoming head and it required considerable traction to deliver successfully. The placenta was expelled by the Crede method and the uterus thoroughly irrigated with two gallons of hot water. There was no laceration of the perineum and the pa-

tient was returned to bed in a fairly good condition, the preparations and the delivery having occupied two hours. The patient's blood-pressure after delivery was 120 M. M.

According to later reports from the attending physicians, the patient made an uninterrupted recovery. The puerperium was absolutely normal except a temperature of 99.8 the second and third day.

Convulsions ceased as soon as the uterus was emptied and the patient was conscious the following morning.

CASE III.—ECLAMPSIA, WITH INDUCTION OF PREMATURE LABOR, AND DELIVERY OF A HYDRO-CEPHALIC FETUS.

This patient, a multipara, was seen in consultation with Dr. Weidner on May 8th, with the following history.

The patient had been treated for chronic interstitial nephritis for the last two years, the condition becoming very much aggravated by this pregnancy. Two weeks before I saw her she had a convulsion, with albuminuria, suppression of urine and ocular symptoms and in consequence she was restricted to an absolute milk diet in addition to proper therapeutic measures. In spite of this, vomiting began, the patient finally not even retaining the mixture of barley water and milk given her. The urine on the morning of May 8th was almost solid with albumen upon boiling and contained a good deal of blood. The blood pressure was low, only 126 m.m. in fact that has been my experience in eclampsies with pronounced kidney symptoms. There was marked dimness of vision and nervousness. Upon abdominal examination the fundus was found one inch above the umbilicus, with the patient now seven months and one week advanced in gestation. No fetal heart sounds could be heard, although the patient claimed that she had felt movement once on the previous day. The question as to the propriety of inducing labor was decided upon the fact, that the urinary symptoms were getting worse in spite of the extreme restriction of diet, there was no improvement with the therapeutic measures used and in addition the ocular symptoms were becoming more pronounced. A large tube was introduced into the uterus at 1 P. M. The first pains began at 11 P. M. and the fetus with the gauze packing and tube was expelled with one pain at 4 A. M., just a few minutes before I reached the house. The fetus, judging by the color of the umbilical cord, had been dead a number of hours. The body was small and undeveloped with the head unusually large and showing the prominent characteristics of an hydrocephalus.

The maternal surface of the placenta show

ed to a marked degree, the pathological changes due to kidney disease of the mother, the placenta being a mass of white infarcts. Immediate improvement in all symptoms and in the condition of the urine followed upon the delivery of the patient.

REPORT OF TWO CASES OF PUERPERAL ECLAMPSIA.

By HARRY L. READ, Louisville.

On January 10th, 1914, the writer was engaged to deliver Mrs. T., aged nineteen years, primipara, who had then advanced to about the seventh month of utero-gestation. She appears in perfect general health, although there was slight edema of the feet and ankles such as is oftentimes observed at this stage of pregnancy. Examination showed normal abdominal distension for seven months' gestation, with normal pelvis. The fetal heart sounds were strong and easily detected. A specimen of urine was obtained, analysis of which showed specific gravity of 1012, reaction acid, no albumen. Heat and nitric acid test used. The urine was again examined two weeks later, and no albumen found.

The following history was furnished by the mother: Father of the patient dead, cause unknown; mother in good health; one brother died in infancy; no sisters; patient was a bottle-fed baby. At the age of six months she had an attack of dysentery, during which several convulsions occurred. She had none of the usual diseases of childhood, nor had there been any serious illness since. Menstruation was not established until the age of sixteen, and had always been irregular.

Present Illness. Was called to see the patient February 5th, 1914, when her pregnancy had advanced to the eighth month. She was then considerably nansated, and had vomited once; she complained of severe frontal headache; pulse 78; kidneys and bowels had acted a few hours before; there was pronounced edema of feet and ankles. Three ounces of saturated solution magnesium sulphate administered at once, and two hours later a large euema of normal saline solution given. A specimen of her urine was obtained and taken to the office for immediate examination. It was found to contain a large amount of albumen. The examination had scarcely been completed when a call was received to come at once to her home, and on reaching there it was found a convulsion had occurred half an hour previously, the patient falling from her chair into the fire sustaining a slight burn of the right arm. She was extremely nervous, pulse 100, vision entirely obliterated, blood pressure 190 m.m. hg. One-quarter grain morphine immediately admin-

istered hypodermatically. Within thirty minutes she had another convulsion, which was controlled with chloroform. Assistance was called and preparations made for immediate delivery; but before we could get everything in readiness (which was about forty minutes) another convulsion occurred. Examination at this time showed no dilatation of the cervix, and of course none could be expected at that stage of gestation. The patient was then anesthetized with chloroform, the cervix being rapidly dilated and delivery accomplished with forceps within about an hour.

The child was markedly cyanosed and apparently dead at the time of birth, but after working with it for thirty minutes breathing became fairly normal. The infant lived sixteen days, and during that time had ten or fifteen convulsions.

The placenta was normally expelled within twenty minutes. There was a slight vaginal laceration for the closure of which two silk-worm gut sutures were inserted followed by perfect union.

As soon as the patient regained consciousness from the anesthetic, two ounces of saturated solution magnesium sulphate administered every half hour until free evacuation occurred. Two hours after delivery she had a convulsion during which the bowels and kidneys acted involuntarily. The blood pressure at this time was 155 m.m. At midnight 1-8 grain morphine given hypodermically to promote quietude.

The following morning, February 6th, pulse 90, temperature 101 degrees F. Administered five grains calomel, followed in four hours by two ounces of castor oil. Examination of the urine at this time showed a moderate amount of albumen. At five o'clock P. M. she had a convulsion; pulse 114. Twenty minims veratrum viride administered hypodermatically, and within half an hour the pulse had declined to sixty per minute. Ordered ten minims doses veratrum to be given by the nurse when necessary to maintain the pulse rate at about sixty.

February 7th, 9:00 A. M., pulse 64, temperature 100 degrees F., respiration 20, blood pressure 140 m.m.; patient still semi-conscious and unable to distinguish light from darkness. Later in the morning she retained five ounces of tea. About noon she had a convulsion lasting five minutes, the nurse being unable to count the radial pulse; 1-30 grain strychnine given hypodermatically; twenty minutes thereafter pulse rate 152; hypodermatic injection ten minims veratrum viride, and within two hours the pulse rate had declined to 56. Ordered five grains calomel, to be followed in four hours by two ounces sat-

urated solution magnesium sulphate every hour until free evacuation.

February 8th, temperature 99 degrees F., pulse 56, blood pressure 135 m.m. Patient voided twenty ounces urine in the forenoon. Beginning at four o'clock P. M. ordered salts to be given every hour as before, resulting in large watery stools. Patient for the first time since beginning of illness able to distinguish light, i.e., when a lighted match was passed before her eyes there was a perception of light.

February 9th, temperature 99 degrees F., pulse 74. Hot milk permitted every four hours; two grains calomel on tongue, followed by salts in six hours. Mental condition and vision much improved.

February 10th, temperature and pulse normal; blood pressure 130 m.m. Liquid food allowed every four hours; 1-2 ounce Basham's mixture t.i.d.

February 12th, patient mentally clear, and vision restored.

February 25th, recovery perfect.

Case 2. May 18th, 1914, I received a call to come to see Miss G., aged twenty-three years. On reaching her home, which was two hours later, I found the patient to be about eight months pregnant, semi-conscious, vomiting, pronounced edema of feet and limbs, pulse 100, temperature normal. The family told me that she had been suffering with severe headache, and had had four convulsions within the last three hours. I made a digital examination and found no dilatation of the cervix. Gave 1-4 grain morphine hypodermatically, ordered saturated solution of salts one ounce every thirty minutes until free bowel movement.

In less than twenty minutes she had a convulsion lasting three minutes. It was about twenty minutes before she regained sufficient consciousness to take a dose of salts. In about forty minutes I gave twenty minims of veratrum viride hypodermatically. Ordered ambulance and sent patient to hospital. She reached there about seven P. M. when her temperature was 97 4-5 degrees F. in the axilla, pulse 80, respiration twenty. Blood pressure 184. Patient semi-conscious. Urinalysis showed specific gravity 1008, acid reaction, albumin abundant. Ordered two ounces magnesium sulphate, saturated solution, every hour; also high enema of soap suds alternating with glycerine-salts enema every hour until free watery evacuations.

The patient vomited a copious amount of greenish fluid during the night. She had several large fecal movements.

May 19th, nine A. M., blood pressure 160. Patient conscious. She remembered but faintly the happenings of the previous day,

and asked what had happened to her that she was in the hospital. Gave her five grains of calomel on tongue. Ordered water freely as enema had greatly diminished.

May 20th, blood pressure 140. Voided normal amount of urine, bowels acted freely; ordered milk and liquids.

May 21st, six A. M., one ounce castor oil; urinalysis showed specific gravity 1012, acid

May 22nd, Basham's mixture 1-2 ounce t.i.d., liquid diet.

May 23rd, pulse 64, blood pressure 134; patient sat up in chair for two hours.

May 24th, one A. M., patient complained of severe frontal headache. Ordered high enema, result copious defecation. At four A. M., vomited copiously greenish fluid, ordered calomel five grains, followed by salts in four hours. At seven P. M., pulse 70; gave veratrum viride 10 minims hypodermatically. Patient was then in partial stupor. Thirty minutes later she had a convulsion lasting three minutes, partially controlled with chloroform, involuntary micturition; pulse 86, blood pressure 170. Gave 10 minims veratrum viride hypodermatically. High milk and molasses enema resulted in large pieces of hardened fecal matter.

Pulse ranged during the day from 46 to 60; bowels acted thoroughly; patient vomited a great deal, and was mentally clear by night. Again asked nurse what had happened to her during the day.

May 25th, temperature normal, pulse 68, blood pressure 130. Patient had a comfortable night.

By the end of the week patient sitting up and around ward. Sent home May 31st. Doing nicely at present. Urinalysis shows specific gravity 1012, faint trace of albumin. Expect to deliver her in about fifteen days.

DISCUSSION.

Walker B. Gossett: I wish to congratulate Dr. Reed upon the success he has met with in the management of these cases. There is no doubt that veratrum viride is a valuable aid in the treatment of this condition. I would like to ask the doctor why he used silk instead of catgut in repairing the perineum?

Dr. Speidel's cases were also very interesting, especially the first one. In the cases of breech presentation that I have had, I have always been able to deliver the posterior arm, then rotate the anterior arm posteriorly and deliver it. I congratulate the doctor upon the good judgment and nerve exhibited in deliberately fracturing the humerus. I would like to ask him in what position the anterior arm was at that time. I understood him to say it was extended. Was it anterior to the child or posterior?

Leon L. Solomon: These reports are unusually

interesting, especially with reference to the medication employed. I confess that I am not a believer in veratrum viride in such cases. I can see no good to be derived from it. If the history of this case, which was so ably handled by Dr. Reed, be carefully investigated, I believe it will be evident, that very little good was accomplished by the use of veratrum, administered in what seemed to me to have been heroic doses. It is an agent, which, in large doses, sometimes works great harm and rarely accomplishes the purpose for which it is given. In this case, it did not succeed in keeping down the blood pressure, which leads me to say, that the blood pressure is something upon which we cannot depend as a guide in eclampsia. In some cases the pressure is high and, in others, low, and we wonder, in the former, why it is so high and in the latter why it is not higher.

It is told, that the celebrated Prof. Parvin, concluded a paper on the subject of "Puerperal Eclampsia," in his own inimitable way with "And, gentlemen, if I were to be consigned to the islands of the seas with eclampsia, as my lot, for the balance of my days, I would thank God for sending me there with an abundance of chloroform."

As to the use of iron, I believe we constantly give larger doses of iron than are needed. Basham's mixture, in one, or at most two, dram doses, represents about as much iron as the average individual will assimilate, and it is a question whether, in administering iron in half ounce doses, we are not giving more than can be assimilated. Surely, the best authorities to-day insist upon iron in smaller doses than the doctor has here employed.

Ben Vaughan: I have come to the conclusion that when one has faith in any certain remedy in eclampsia, he had better not investigate it too closely, or he is liable to lose that faith. In my early experience I used veratrum viride freely and apparently most successfully, until I made the discovery that the veratrum viride I had been using was inert.

I disagree with the doctor as to the use of chloroform. It has been proven by laboratory experiments that chloroform will produce a condition of the kidney almost identical with that found in puerperal eclampsia. Therefore, it would appear that, by giving chloroform in this condition, we are simply adding fuel to the fire.

For a long time I was an earnest advocate of venesection, until I read, in the American Journal of Obstetrics, a case report by a German physician, in which the patient had a ruptured uterus. She was removed to the hospital and a complete hysterectomy done, after which eclampsia developed. It appeared, therefore, in this case, that emptying the uterus, with the accompanying free hemorrhage, was not sufficient to prevent the development of eclampsia. Of

course, this may have been an exceptional case.

Virgil E. Simpson: I believe it is a cardinal principal in the study of therapeutics that where a number of drugs are advoted for a given condition, no one of them will be found to be uniformly effective in the management of that condition. This applies to eclampsia as well as to many other diseases. Until we have succeeded in learning the cause of eclampsia, we must necessarily grope in the dark with respect to its therapeutic management.

I quite agree with the statement that a high blood pressure in eclampsia is not necessarily cause for alarm, and if this be true, the administration of such agents as exert a primary influence upon the blood pressure through the vasomotor nervous system would scarcely relieve the condition. I have never believed that puerperal eclampsia is renal in its origin. Personally, I am quite convinced that it can be explained only upon the hypothesis of the manufacture in the body of placental protein material, which, in the eclamptic individual, accumulates because there is not produced a sufficient quantity of ferments to neutralize this protein material. To me this appears to be the most rational and logical explanation of the cause of eclampsia that has ever been advanced, and it is upon this hypothesis that work is now being done which, in all probability, will eventually lead to more successful management of this condition.

I fail to see how *veratrum viride*, as a specific illustration, can do anything other than perhaps lower the blood tension; I do not see how it can remove the cause. It does not prevent convulsions; it is notoriously unreliable and uncertain in its therapeutic effects. Therefore, I do not see why the medical profession as a whole, should persist in making use of drugs of this character in the management of eclampsia. I have seen individuals with blood pressure ranging from 250 to 260 millimeters of mercury, in conditions not of an eclamptic nature, go to their death without ever having convulsions. If high blood pressure were the cause, or a cause, or a contributory cause, of the convulsions in these cases, we would certainly have convulsions in other conditions with extreme high tension.

We follow customs and we get into routine habits—all of us, and I do not know that we are altogether to blame for it. The old custom of using laudanum and lead-water as a local application to relieve pain was not based upon scientific therapeutic principles. Opium, externally applied, has no anesthetic effect. The instillation of morphin sulphate into the conjunctival sac is another illustration of how we have blindly followed the customs of our fathers for years, and years, regardless of the fact that this agent does not produce the effect expected. It has been demonstrated successfully and conclusively that the gastro-intestinal mucosa is unable to absorb

more than a grain of iron in twenty-four hours. Therefore, what good can come from heroic doses. When we give iron in large quantities we are almost certain to induce a state of rebellion on the part of the stomach, and thereby defeat the purpose of the therapy by making the digestive tract unfit for the assimilation of food, and yet, we continue administering iron in large doses.

Edward Speidel, (Closing): In regard to the difficulties attending the delivery in the first case, I want to say that this patient was a very small woman. I was very glad that the husband of this patient was a doctor, and could appreciate the difficulties under which we labored. My hand is smaller than the average, and I was totally unable to manipulate the arm with the hand high up, above the superior strait. I introduced my hand as far as I could, but was unable to turn the body around. I believe the end justified the means in this case.

In regard to the case Dr. Reed reported, I have used *veratrum viride*, and I must confess that it has been with considerable fear. It is a very uncertain drug, owing to the fact that preparations purchased on the market may be very old. Therefore, when it is desired to use *veratrum viride* in the present day, it should be in the form of what is known as "veratrone," which is put up in ampoules and is staple and reliable. As I understand the action of *veratrum viride*, it is supposed to depress the patient to such an extent that the poisoned blood is distributed into the capillaries, but as soon as the heart can sustain itself again that poison will, of course, be brought back into circulation. In all of these cases, especially in the later stages, I have always believed in venesection, particularly where the blood pressure will justify the withdrawal of a definite amount of blood, and likewise a definite amount of poison. I believe that the best treatment of these cases is the narcotic treatment, so well described by Dr. Stroganoff, who has a record of 800 cases with 20 deaths. None of us, of course, have had so extensive an experience with eclampsia, and it is deserving of our consideration. In the early cases of eclampsia, say before the eighth month, the patient should be kept under the influence of narcotics, and thorough elimination should be practiced. If necessary, delivery can be effected at any time within from three days to two weeks by means of slow dilatation and bougies, without resorting to more forcible measures. In later cases I think venesection should be practiced, with delivery according to the condition of the patient.

As to the last case mentioned by Dr. Read, I would watch this patient very carefully. In spite of the apparent recovery, an accumulation of the poison may occur, eclamptic symptoms develop and result in the death of the child and possibly serious injury to the mother. At any rate, I

would have her in a hospital where she could be kept under observation.

Harry L. Read, (Closing): I feel that there are many men here to-night who use *veratrum viride* in these cases, but they have not discussed the subject. On the other hand, those who do not use it have criticised its use. There are men who are using *veratrum viride* in this country today who are just as competent authorities as any among the ranks of those who do not use it. I have not had experience enough in these cases to say that it should be used as a routine practice, but I do know that in these two cases, as long as they were under the influence of *veratrum viride* and the pulse was around 60, they did not have convulsions.

I do not believe any one can say positively just what *veratrum viride* or any other drug will do in these cases. If there is a condition that must be treated individually, it is this one.

MEDICAL PROGRESS

DEPARTMENT OF GENITO-URINARY AND SKIN DISEASES.

By CLAUDE G. HOFFMAN AND HARRY C.

WEBER, Louisville.

I.

I. Treatment of Certain Cases of Prostatic Obstruction by Cauterization by the High Frequency Current. Under the foregoing superscription Stevens (American Journal of Surgery, New York, March 1914, p. 93) suggests (a) that it is possible to destroy prostatic tissue by the high frequency current, and (b) that this is a perfectly feasible means of eliminating prostatic obstruction in certain cases. In substantiation of these contentions two illustrative cases are cited:

(1). Patient of 46. Progressive urinary frequency; enuresis; prostate slightly enlarged; residual urine 26 to 34 ounces persisting after repeated catheterization, etc.; bladder markedly trabeculated. Destruction of "group of long villi attached to roof of posterior urethra" produced no change in urinary symptoms nor amount of residual urine.

After four treatments with Oudin current to posterior portion of vesical aspect of prostatic border, there was marked reduction in residual urine (9 ounces). Cystoscopy showed at site of cauterization necrotic tissue, with distinct depression. Later "small troughs" burned in right and left anterior aspect extending half an inch into prostatic urethra, with further widening of posterior notch. The author regards the latter of the greatest importance.

Gradual improvement in symptoms. Ces-

sation of enuresis; residual urine 1 1-2 ounces; intervals between micturition during day six hours; patient no longer has to urinate during night. Number of treatments six; total time of application Oudin current 18 minutes.

(2). Patient of 65. Frequency of urination; enuresis; residual urine 13 to 15 ounces; prostate not markedly enlarged; intravesical projection of median lobe. Six applications of Oudin current, total time of application 9 1-2 minutes, caused disappearance (necrosis) of entire lobe. All symptoms relieved; residual urine less than one ounce.

"Both these patients tolerated instrumentation so well that not even local anesthesia was used. Neither patient had post-operative pain nor hemorrhage of any consequence."

The author refers to another patient upon whom "three cutting prostatic operations" had been previously performed. Frequency of urination continued; residual urine 3 to 6 ounces. Cystoscopy revealed irregular median prostatic bar; cauterization of small projecting lobe resulted in no benefit; subsequent treatment of median bar reduced; residual urine to 1 1-2 ounces. Patient still under observation.

Two patients with enlargement of both lateral lobes refused surgical intervention, and application of Oudin current impracticable because of intolerance to instrumental manipulation.

Based upon his experience the author does not advocate the high frequency current for large hypertrophies, believing that the majority of such cases are better treated by open operation. He is inclined to reserve the high frequency current for cases in which a comparatively small portion of prostate at vesical neck is causing a relatively large degree of obstruction; but possibly it may afford partial relief in other types, and may reasonably be tried when there exists serious objection to prostatectomy. With the Oudin current a single cauterization is not deep, and progress in destroying prostatic tissue is slow compared with results obtained in vesical papillomata.

Not infrequently the prostate reaches considerable size before development of symptoms, and a slight additional enlargement may induce great discomfort. In such cases of general enlargement the author believes a considerable degree of relief may be obtained by cauterizing "troughs" in the enlarged lateral lobes; but it is obvious recurrence of symptoms may readily be induced by further slight growth of the obstructing mass. On the contrary, in the types of cases regarded as especially suitable for the high frequency current, particularly those in which the entire obstruction is due to a middle lobe which can

be entirely eradicated, the prognosis is certainly excellent.

"A very practical consideration always is whether the patient takes kindly to instrumentation. Intolerance to the cystoscope after good local anesthesia may easily turn the tide in favor of operation in a case otherwise regarded as suitable for this simple procedure."

II.

II. Modern Treatment of Urogenital Tuberculosis. The proper treatment of urogenital tuberculosis has for years remained a perplexing problem to both the physician and surgeon, the last word not having yet been uttered upon either side of the controversy. There have been in vogue three general plans of treatment, viz: (1) non-surgical, i.e. by internal and climato-therapy; (2) the practice of conservative surgery; and (3) radical surgical intervention. Each method still has earnest advocates, and thus the controversy is prolonged.

The International Journal of Surgery for May, 1914, reviews an excellent article by F. de Quervain (*Semaine Med.*, No. 4, 1914) upon this subject, in substance as follows:

(1). The author advises radical operation in unilateral renal tuberculosis; conservatism where the lesion is bilateral except in rare instances:

(2). In tuberculosis of the epididymis; currettage if the disease is unilateral; injection of iodoform-glycerin or resection may be employed, but always in connection with climato-therapy:

(3). If the testis and epididymis are involved, unilateral castration is indicated; if, in addition to these structures, the prostate and seminal vesicles are implicated, the removal of the prostate and seminal vesicles are implicated, the removal of the tuberculous foci in the testicle may be followed by a cure of the secondary lesions:

(4). In tuberculosis of the female genitals, the question of conservative or radical treatment depends upon the extent of the process; in the initial stage, or when far advanced, it is best treated by conservative methods. The presence of tuberculosis in other organs and the age of the patient must also be considered. The measures adopted should be as conservative as possible, consisting essentially in the surgical removal of the tubes which are so often primarily involved:

(5). In view of the fact that tuberculosis of the bladder is usually secondary, the removal of the primary process in the urogenital tract is indicated.

III.

The Combined Use of Mercury and Salvarsan or Neo-Salvarsan in the Office Treat-

ment of Syphilis. Since the momentous discovery of Ehrlich the routine treatment of syphilis has undergone decided revolution, but has not yet reached the anticipated acme of perfection. While it is not now conceded that the disease may be permanently cured, as was at first promised, by a single dose of salvarsan, this new arsenical preparation certainly constitutes an invaluable adjunct to the older plans of treatment.

The technique of administering salvarsan (or neo-salvarsan) has been markedly simplified during the last year or two. The majority of observers now recommend and practice the intravenous route, provided the patient can be treated in a well-equipped hospital; but cases are not infrequently encountered where hospital treatment is impossible. Under such circumstances some other method of administration must necessarily be employed to insure requisite safety to the patient.

In an admirable paper, Panoff (*The Urologic and Cutaneous Review*, April, 1914, p. 171), offers certain suggestions (in regard to the treatment of syphilis) which are worthy of serious consideration, where the patient must be subjected to office treatment, viz., the intra-muscular employment of salvarsan or neo-salvarsan in conjunction with salicylate of mercury. At the same time he admits that if all patients were so situated that salvarsan could be intravenously administered, that would be the only method to use. He employs for intramuscular injection smaller doses of salvarsan than usually recommended (0.1 gm.) but repeats the dose every four days; that is two doses of mercury to one of salvarsan or neo-salvarsan, the intervals between treatments being four days. After considerable experimentation as to frequency of dosage, etc., and after comparing the data thus obtained, he found that the best results accrued where two doses of mercury were given to one of salvarsan. In all the patient received twelve doses of mercury and six of salvarsan, the treatment extending over a period of seventy-two days. This constitutes what the author designates as a "course" of treatment. After the last dose of salvarsan under this plan, the patient is given a rest of four weeks, then a Wassermann test is made. This course of treatment is repeated, with intervals of rest varying from four weeks to six months, until the Wassermann reaction becomes permanently negative. The patient is then discharged as cured.

Panoff claims that small doses of salvarsan or neo-salvarsan administered intramuscularly may be given with the assurance of its being absorbed, and the amount of pain following the treatment is no greater than that from the injection of mercury. He uses a glass

syringe of 3 c.c. capacity with a twenty gauge needle about two inches long, the site of the injection being massaged for about five minutes. The four day interval was decided upon from the fact that investigation showed salvarsan was eliminated from the blood in four to five days, although deposits of the drug were found months afterward in the glandular organs, particularly the liver.

The author believes neo-salvarsan in doses of 0.15 gm., corresponding to 0.1 gm. salvarsan, is ideal for intramuscular injection, a solution of about five per cent. being utilized. To make this with the 0.15 gm. dose, about 3 c.c. of freshly distilled or sterilized water should be used at 68 degrees to 71 degrees F. On account of the rapidity of oxidation of neo-salvarsan solution, it should be used as soon as prepared; it should not be kept in stock solution, and should never be warmed.

No emphasis need be placed upon the statement of Panoff that the best results may be expected to accrue from the intravenous administration of salvarsan or neo-salvarsan, and that the treatment should be prosecuted in a suitable hospital with trained assistance and aseptic surroundings. However, where these desiderata are unobtainable, or where the patient has valid reasons for not desiring to undergo hospital treatment, some other plan must be substituted; and where office treatment becomes necessary, the suggestion of Panoff, i.e., the combined use of mercury and salvarsan or neo-salvarsan as stated, seem worthy of adoption with the expectation that favorable results will accrue in the majority of cases provided the treatment be faithfully applied.

IV.

The Gonococcus Complement-Fixation Test. According to an editorial in a recent number of the *American Journal of Surgery*, New York, (March, 1914, p. 123), as a logical result of the original researches of Muller-Oppenheim, supplemented by the clinical and experimental investigations of Schwartz-McNeil, the value of the complement-fixation test, for differential diagnosis of local and systemic infections by the diplococcus of Neisser, has been definitely established.

The editor quite correctly observes that the importance of such a test is at once obvious:

(a) in determining the cure of urethral and para-urethral Neisserian infections, (b) in the differential diagnosis of the arthritides and female pelvic inflammations, and (c) in determining the gonococcal origin of systemic infection marked by lesions involving the heart, kidneys, bone and muscle. He refers to the extensive study of this entire subject by Thomas and Ivy (*The Archives of In-*

ternal Medicine, January 15th, 1914), and cites in substance the following data from their conclusions, to indicate the specificity of the complement-fixation test, and the conditions under which a negative reaction may be expected:

(1). A positive reaction in invariably reliable and always denotes the presence of a focus of gonococcal infection:

(2). A negative reaction frequently fails to determine the presence of disease, especially in the acute and subacute stage, when limited to the urethra, and never (i.e., always fails) when it is confined to the anterior urethra or vagina:

(3). In no alien (non-gonococcal) infections or systemic disease has a positive reaction been obtained; the test, therefore, appears to be absolutely specific:

(4). A positive reaction has been found present in 21.05 per cent of patients clinically cured; such patients, therefore, should not be discharged from treatment nor observation until a negative reaction has been obtained:

(5). Not infrequently, either when suspicious lesions are presented, or accidentally, positive reactions will be discovered in patients denying the possibility of Neisserian infection:

(6). In only 9.09 per cent. of cases of acute and subacute antero-posterior urethritis has the complement-fixation test resulted positively; the earliest appearance of a positive reaction in a primary attack of posterior urethritis, without complication, occurred in the sixth week:

(7). In a number of cases of chronic recurrent urethritis, with acute exacerbations, the test was invariably positive; many of these patients undoubtedly had prostatitis:

(8). The reaction resulted positively in one-third of all cases of chronic posterior urethritis; undoubtedly many of these patients had a mild or low grade prostatitis:

(9). In 52.08 per cent of cases of chronic prostatitis a positive reaction was obtained:

(10). In two-thirds of all stricture cases a positive test was demonstrated:

(11). In epididymitis a positive complement-fixation test was observed in 87.5 per cent of cases. Excluding one case probably tuberculous, and imposing a time duration of five weeks, the positive result in this form of disease was 100 per cent.

(12). In cases of arthritis, undoubtedly gonococcal in character, positive reactions were obtained in 100 per cent:

(13). In the diagnosis, and differential diagnosis, of pelvic disease in women, the complement-fixation test is unquestionably to play an important role. The authors were unable to obtain any positive results in un-

complicated urethritis, vulvovaginitis and Bartholinitis, therefore it would appear that the infection must ascend at least to the level of the uterus to produce a positive blood response:

(14). Inoculation of "gonococcus bacterin, anti-gonococci serum, etc.," by the production of immune bodies, may be causes of positive reactions. How long these immunizing effects may endure is unknown, but patients treated by immuno-therapy observed one year later demonstrated negative complement-fixation reactions:

(15). Although the bacteriological demonstration of the Neisser organism culturally is the only absolute method for its identification in chronic inflammatory processes, the method as a routine procedure is impractical, and susceptible to many failures and fallacious results; the complement-fixation test is not only less laborious, but is productive of a higher percentage of positive findings.

As suggested by the editor (Dr. W. M. Brickner) the importance of the foregoing data cannot be overestimated, not only from the standpoint of accuracy in diagnosis, but also in relation to the adequate treatment of certain lesions the origin of which has hitherto been submerged in obscurity.

ABDERHALDEN'S SERUM REACTION.*

By J. H. HOLMSTEDT, Newport.

There are various protective mechanisms in the human body that guard against the invasion of foreign substances in the blood stream. The hepatic cells act as a guard between the digestive system and the circulatory system; and the lymphatics act as a guard between the tissue cells and the blood current. Note the processes of food digestion from the insoluble colloidal albumen through the various stages of peptones, peptids and finally into amino-acids before their absorption. These food products undergo an analysis within the liver where the unfit are separated from the fit, the unfit cast off through the bile and the fit conveyed into the circulatory system, there to form part of the blood's own substance.

Should there occur an hyper-absorption of heterogenous substances, too much for the hepatic cells to take care of, thereby permitting the entrance into the blood current of substances foreign to it, there occurs the phenomena of reaction, when there is secreted an enzyme, variously called proteolytic enzyme or ferment, or protective enzyme or ferment. Said enzyme digest said foreign sub-

stances into blood-own substances, thus rendering these foreign materials fit to be utilized in the metabolic processes of the cells.

This phenomena may occur in over-eating, infection, the absorption of the products from malignant growths, or by the intra-venous injection of substances directly into the blood. These enzyme have the property of specificity; that is, they act only on that kind of material that causes their secretion.

In May, 1912, Abderhalden announced his method of detecting this enzyme in the serum of a pregnant woman, and gave the test to detect pregnancy. There have been, since then, some able workers who have demonstrated, to their satisfaction, the reliability of the test; and yet on the other hand some of the most able European workers do not believe in its efficiency, they having found the serum of pregnant women digest other than placental tissue. Charges of faulty technic is assigned to many failures, but when such able workers as are found in the Munich clinic dispute the efficiency, note must be taken of their work. Notwithstanding the dispute as to the positive tests, they all agree when the test is negative it negatives the case.

The test is a very simple one, but it is absolutely necessary that the technic be perfect. I will give you the method of Dr. Judd, of Baltimore, Md.:

"1—A fresh placenta is obtained, finely ground in a meat-chopper, washed entirely free of blood and then thrown into a quart of vigorously boiling water to which it is preferable to add a few drops of acetic acid. After five minutes' boiling, the water is drained off and the tissue boiled in a second quart of water for a period of five minutes. This process is repeated as often as is necessary to render the water at the end of five minutes' boiling, free from the biuret reaction or a modification of it. Thereafter, the tissue is either drained and thoroughly dried in a desiccator or stored away as a housewife does preserves, except that to further prevent putrefactive changes, a layer of toluene should be added.

"2—Dialyzers impermeable to serum albumin and to the intact placental protein. (Those of Schleicher and Schnell No. 579 or 579a are very convenient).

"3—Glass containers for the dialyzers, whose inside diameter is not more than 4mm greater than outside diameter of the dialyzer. (The ordinary urinometer cylinder serves well).

"4—A few capillary pipets, test-tubes and a bunsen burner.

"5—An apparatus for procuring at

*Read before the Campbell-Kenton County Medical Society.

least 6cc of sterile blood from a vein of the patient.

"6—Reagents for doing the biuret test.

The biuret test is performed by adding in a test tube about an equal volume of a strong caustic solution to the fluid tested and layering this mixture with a weak (about 0.25%) solution of copper sulphate. At the line of juncture, if biuret or allied bodies are present, a violet-purple ring of demarcation occurs. A more delicate method for the detection of the decomposition products of the placenta is by means of a reagent, triketohydrindenehydrate, or ninhydrin. Of a 1% solution of this 0.2cc are added to 10cc of the test fluid. This is then boiled for one minute. A lavender to deep purplish blue indicates the presence of the suspected substances, a colorless or slight yellowish tinge, its absence.

"The performance of the test is likewise simple. The blood is obtained from the patient by veni-puncture and allowed to separate or is centrifugalized. The clear, fresh (not over six hours old) and hemoglobin-free serum is pipetted off and 1.5cc of it placed in a dialyzer which has become thoroughly saturated with water are placed in the container and the charged dialyzer partially submerged in it. A layer of toluene is added to both dialyzer and container and the whole incubated for from twelve to sixteen hours at 98.6F. As a control use two extra dialyzers and containers; in one of which place serum alone, and the other tissue and distilled water, both of which are covered with a layer of toluene. Or serum and tissue (the serum in this case being heated for half an hour at 56C to destroy any enzyme present), is placed in another dialyzer and incubated as in the other instance. This controls a possible error due to the permeability of substances other than the placental digestion products, which yield a biuret reaction. At the end of time of incubation 10cc of the solution in the container are tested for biuret. If positive, it indicates that the complex placental protein molecule has broken down to simpler molecules, which, passing through the dialyzer, have imparted to the water on the other side of the membrane—the dialysate—a biuret reaction."

You will note that in this test the serum of a pregnant woman decomposes the placental cells and soluble and diffusible products are formed which pass through the membrane of the dialyzer and can be detected in the dialy-

sate. The technic must be perfect. The water that has been used in washing the dialyzer should be tested and if it responds to the biuret test, the washings should be continued until the dialyzer no longer gives that response. This test will prove that there is a specific ferment in this condition as the serum will not digest any other tissue. The test responds from the eighth week of pregnancy to three months after parturition.

In syphilitic cases the reaction has shown positive results in known syphilitics and negative in non-syphilitics. The test is more simple than the original Wasserman, and when it is conclusively shown to be as reliable, it will, no doubt, replace the Wasserman.

Dr. Baeslaek, of Detroit, Mich., made the test by using the gumma formed as the result of inoculating a rabbit with syphilitic tissue or of the blood of a syphilitic. These gummas, or, strictly speaking, mucoid degenerated bodies, are perhaps best, as they contain the *Spirocheta Pallida* in large numbers and are almost free from blood and so make error less possible. The test is performed that same as that for pregnancy and the resultant reaction depends upon the density of the color in comparison with the serum control test. In the serum-no-tissue control, it is possible that there may be present amino-acids which responds to ninhydrin. The deeper the color in the serum-tissue, the more positive and more active the ease. Dr. Baeslaek gives the tests made in 55 cases, of which 46 were syphilitics. Of the 46 cases 36 cases gave the serum reaction. The cases were grouped into 8 primary, 18 secondary, 7 tertiary, 5 tabetics, 7 general paretics and 1 congenital. The remaining 9 serums were 4 normal persons, 3 chaneroids, and 2 scarlet fever.

One scarlet fever patient gave positive Wasserman and negative serum, while the other 8 gave negative Wasserman and serum test. Of the syphilitics, one healed secondary gave negative Wasserman and serum; and 6 general paretics and 3 tabetics gave positive Wasserman and negative serum.

More work will be necessary among a greater number of workers before definite conclusions as to its absolute diagnostic value can be arrived at.

Some workers believe that an analogous reaction occurs as the result of the absorption of products when malignant tumors are present, and adopted the following methods to detect such reaction:

A small piece of cancerous tissue is placed in a dialysing sack and covered with a few cc of serum of the suspected cancer patient; this sack is put in a 2% solution of sodium florid in a suitable container and the whole placed at 22C

(71.6F.) for thirty-six hours. At the end of this time the fluid outside of the dialyzer is tested for the products of protein digestion. The presence of peptones signifies a positive result—the patient has cancer. It is absolutely necessary for perfect sterility to be maintained throughout, as contamination spoils the result. Erpicum³ boils a small fragment of cancer tissue in twenty times its volume of water for ten minutes, tests the water for biuret reaction, and if positive, bathes it in distilled water with 3.5% sodium flourid until the liquid no longer gives the biuret reaction, and then proceeds as above. Sodium flourid is germicidal and has no effect upon the enzymotic processes.

A few of the many results different investigators have obtained are herewith given. They comprise carcinomas of different organs. Dr. Ball⁴, Rutland, Vt.,—7 positive and none negative in those known to be malignant; 20 positive and 8 negative in suspiciously malignant cases, and 4 positive and 12 negative in clinically non-malignant cases.

Dr. Lowy⁵, Newark, N. J.—19 positive and none negative in known malignancy.

Frank and Heimann VI., Berlin, had 97.2% positive in 54 cancer cases and 95% negative in 20 normal cases.

Erpicum, Belgium—100% in 46 cases of carcinoma, were positive.

In nervous affections the serum of patients have been tested for various conditions. It is assumed that a protective ferment is formed in the organism against cells or protein which have entered the blood from a degenerated organ. In dementia praecox the brain cortex degenerates which it is believed causes protective ferments to be elaborated which will decompose products of the human brain. If the genital gland of the dementia praecox patient is affected, said gland is subject to digestion by the serum of the same sex from which the gland is derived. These ferments are so specific that the ferment of one sex will not affect the glands of the other sex; that is, the serum of a woman will not digest testicular tissue, nor will the serum of a man digest ovarian tissue.

These organs should be taken from a cadaver 24 hours after death and not from a person that was cachectic, or one who died after a long agony or has suffered from an infection or high fever just before death. This should be done under strict aseptic precaution and should contain as little fat as possible. The test is performed the same as that for pregnancy. Dr. Simon⁶, of Baltimore, found the serum in dementia praecox cases to respond in 88% of 25 cases against sex

glands, 56% of 13 cases against Basedow thyroid and 40% in cases against the cortex.

There are many conditions, such as scarlet fever, diseases of the thyroid and thymus, otitis media with brain abscess, that have been tested according to the method of Abderhalden, and found worthy of further investigation. In fact, I believe, as our technic improves and more investigation been made, it will result in a valuable addition to our diagnostic methods. It is something which the internist, surgeon and neurologist should give their careful attention and study. It may never result in being an absolute diagnostic means, but will be of a confirmatory character, and therefore a valuable one. Seropathology will engage the internist attention in the near future as much as anatomic pathology does at the present time, and he and the laboratory man often called together for consultation. For instance in a doubtful malignancy, is it not best to have a serum test made and have one more diagnostic point no cancer present; or guard against the cleared, than to cut into an abdomen and find wasteful excision of useful organs and possible nervous wreck of the patient. And the neurologist ought to be able by this means to locate the offending organ and possibly save a useful man to society. As said before, too numerous would be the diseases to which this test could be applied to mention in one brief paper, but I hope I have given you just one little subject to think about (a subject that has surely interested me), and feel grateful for this opportunity to present this brief paper.

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Leukemia. — Treatment. Benzol (benzene) used in six cases of myeloid leukemia and one of Hodgkin's disease with good results. Given in capsules each containing 0.5 Gm. (8 minims), with same amount of olive oil; at first, 4 capsules daily, after meals, then 2 capsules 3 times daily; later 4 times, and finally 5 times. Leucocyte count gradually lowered to normal, fever disappears, and general condition improved. Effectual where other measures, including X-rays, have failed.—Kiralyfi.

SOME EYE DISEASES WHICH SHOULD
BE TREATED BY THE GENERAL
PRACTITIONER.*

BY T. F. WICKLIFFE, JACKSON.

I wish to make this article as short and practical as possible, and yet be able to care for these cases as they should be treated at home and not sent off to a specialist. Catarrhal Conjunctivitis is the most common of these diseases. In the past eight months, I have seen 287 cases of this, their chief complaint is that the lids feel gritty, there is no real pain or cutting like we find in trachoma. There is always a mucous discharge and if this collects over the pupil it will interfere with vision, but otherwise their sight will be normal unless there is an error of refraction. There is no photophobia. The blood vessels of the conjunctiva are greatly engorged and the under surface of the everted lids will be very red. The hyperaemia fades as the cornea is approached; by this last symptom we can readily differentiate it from the more serious eye diseases. This is easily cured by treatment unless due to an eye strain which will necessitate that they be fitted with glasses besides being treated.

Treatment.—Zinc sulphate gr. X. Aq. Dest. g.s. Zi. Sig. For office use and label as Sol. Zinc Sulph. 2%.

This applied to the everted lids with an applicator with cotton on point of it, and excess washed out with a solution of Boric Acid Sol.

Give them for home use the following:

Rx.—Acidi Borici gr. X.

Spt. Vini Rect. M XX.

Aq. Dest. qs. Zi. Sig. Three drops in eye t. i. d.

Phlyctenular Ophthalmia is rather common and can be readily differentiated by its characteristic symptom. The phlyctenules are usually around the margin of the cornea, but may be on the cornea itself. Leading from the phlyctenule there is a fan-shaped area of hyperemia, the apex of which is at the phlyctenule, where there are several of the phlyctenules, the whole eye-ball may be red. Th photophobia and blephorospasm is generally quite intense; occasionally a general anesthetic becomes necessary to exen examine their eyes. The phlyctenules are apt to come in crops, as one gets well another may come, unless they had them as children. I have seen them in grown people with the exception of two cases (one in New Orleans and one here). This disease occurs in the children who are poorly nourished, generally undersized, of a tubercular diathesis, and are generally living in overcrowded, badly ventilated houses. The great

majority of these cases need not become blind if seen early and proper treatment given. Text books tell us to use Hydrargyrum Chloride Miti. (powdered); also Ung. Hydrargyrum Oxidi Flavi, but the last four years experience has taught me to use the following and I have yet to see it fail: Every three days apply to the everted lids at your office a 2% solution of Zinc Sulphate and give them an eye wash for home use consisting of the following:

Rx.—Zinc Sulphate gr. I. Acidi Borici gr. X. Aq. Camph. dr. II. Aq. Dest. qs. Zi. Sig. Three drops in eye t. i. d.

Get the child out of doors most of each day and have windows open at night; regulate their diet by cutting out a lot of trashy things, see that they get plain, wholesome food with plenty of fresh eggs and milk. It will surprise you how quickly these cases clear up and the little patient seems a different child.

Blepharitis Marginalis is an inflammation of the margin of the lids. It becomes very red, sore and even excoriated; the lashes come out and if the case is a marked one the roots are killed. This means that the patient will lack eye lashes the rest of their lives. There is generally an associated catarrhal conjunctivitis which will need to be treated also. This is really a very stubborn condition and it is impossible to cure them with just a few treatments. The great majority of them will have an error of refraction and must be fitted with glasses that can correct this error.

Rx.—Ung. Hydrargyrum Nitritis. Petrolatum Album. Sig. For office use only and label showing contents.

Rx.—For home use Ungentum Hydrarg. Oxide Flav. one tube. Sig. Apply to roots of lashes twice a day. Do not put in eye. Use the cotton applicator, rubbing it well into the lids where the roots of the lashes are. This should be done twice a week; this salve will burn and irritate the eye if it gets into it, so we must be careful that it does not happen. I think that it takes better effect if the salve is applied hot; this is readily done by holding the end of the applicator over a gas jet or lamp until it gets pretty hot and then rubbing it over the applied salve. Hordeolum (style). This is too well known to need describing to any practitioner. It occurs most frequently in people who have an error of refraction and this is most apt to be a condition of far-sightedness, proper glasses and the same treatment as given for marginalis has given good results in my hands for the last four years.

Chalazian.—This is due to an occlusion of a duct of one of the Meibomian glands, it grows slowly until it reaches the size of a pea; in removing these apply a 10% solu-

*Read before the Breathitt County Medical Society.

tion of cocaine, on cotton-tipped applicator, rubbing it well into the everted lids. Ineise the chalazion; after cutting off the blood apply with a chalazian foreep; some prefer a crucial ineision, but I remove a part of the covering of the chalazian with scissors thus converting my first ineision into a triangle, if now we apply some cocaine solution on an applicator to the bottom of the cavity, we can then curette out the contents with practically no pain at all. You will find the smaller size chalazian curette the best to buy as the larger ones are not practical for the smaller size chalazian. Most surgeons after accomplishing this much quit but I think that it is best to canterize the cavity with trichlo-acetic acid (pure). Be sure you do not have enough of this on your applicator to run, just have the cotton on the tip of applicator moistened with it, as soon as the acid is applied, irrigate the eye with a solution of sodium bicarbonate and let them apply hot, moist cloths at home, such as towels dipped in hot water and there will be very little reaction.

I feel that the general practitioner either treats these eases too lightly, or not at all and some even consider their care a burden.

If this article can in some measure change this, I feel that the effort has been well worth while.

Placenta Previa.—Brindeau elings still to the obstetrical treatment of hemorrhage from placenta previa, relying on the rupture of the membranes, the inflatable bag, bipolar version, manual or instrumental dilatation, etc. Surgical treatment is only instrumental dilatation, etc. Surgical treatment is only exceptionally required. The child is generally born prematurely when there is placenta previa and the mortality is high, 25 to 70 per cent. even in recent statistics. Rupture of the membrane suffices to arrest the hemorrhage in about 50 per cent. of the cases, but this may lead to complications if labor does not follow. The metrenynter is not always easy to introduce with placenta previa, and it might push up the placenta and separate it completely. Instrumental or bimanual dilatation still has a mortality of 7 or 8 per cent. All of these measures thus have their drawbacks for the mother and all are distinctly unfavorable for the child. If the hemorrhage still continues, the uterine artery can be clamped through the posterior roof of the vagina, or the aorta can be compressed by the hand or rubber-tube wound around the waist. Still another aid is to slip a chair under the mattress so as to raise the woman's pelvis until the venous pressure is less than the intra-uterine pressure, when the hemorrhage stops of itself.

THE FORUM

To the Editor:

On Thursday, May 7, I met the Hopkins County Medical Society, and although it was a Shriners Day Celebration and almost every doctor in the county is a Shriner, we had a very pleasant meeting.

A. O. Sisk, the secretary of the society, was unavoidably detained in Louisville, but even in his absence the thoroughness of his work as secretary was shown by the unanimity and good fellowship of the doctors of the county.

D. P. Curry, of St. Charles, invited the society to meet with him the first meeting in June, stating that he would have a barbecue for them.

It was with real pleasure that I met so many of the doctors of Hopkins county.

On Wednesday, May 20, I had the pleasure of meeting several of the doctors of Union County at Morganfield. Dr. Lillian South gave the best lecture I have ever heard her deliver. The courthouse where the lecture was given was well filled, many of the doctors of the county were present. Union county has always a good working membership. With such men as Johnson, Lindle, Henry, Conway, Graves, Nunn and others how could it be otherwise?

The Union County Society has decided from now until late fall to hold their meetings at night, instead of in the day as heretofore.

There is no real pleasure without its mead of sadness, and I could not help thinking of my old friend T. J. Shoemaker, a member of the Union County Society, also of the State Medical Association, who had passed since my last visit to Morganfield. He was a noble type, a splendid physician, a firm believer in medical organization and a Christian gentleman. Requiescat in pace!

Dr. Henry, the secretary, and Dr. Allen, health officer, assured me that the Union County Medical Society would bring up their usual quota of membership.

Yours,

CYRUS GRAHAM, Councilor.

The German Council.—Heubner describes the German commission founded in 1911 for a purpose similar to that of the Council of the A. M. A., but he laments that the work of the commission has met with so much passive or active resistance in and outside of the profession that the results accomplished to date do not repay in the remotest manner the efforts expended. The generals alone cannot win a battle, he declares; when the troops hang back or go the other way there is not much hope for a victory. He draws an impressive picture of the evils which the present intolerable conditions have bred.

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EDITORIAL.

RESERVATIONS AT NEWPORT.

The annual meeting of the Kentucky State Medical Association will be held in Newport, September 23, 24 and 25th. The House of Delegates will meet as usual on the 22nd. All of the sessions will be held in the splendid building of the Blue Grass Inn. The rates will be \$1, \$2 and \$3 a day for rooms, and meals will cost forty cents for breakfast, sixty cents for lunch and seventy-five cents for dinner. In addition to this, there will be *a la carte* service so that men with indigestion will not be required to work on the entire menu.

Dr. W. W. Anderson, at Newport, is Chairman of the Hotel Committee and it is very important that he know how many rooms to have ready and every member is urged to write him at once about his reservation. Our Newport brethren are arranging for a unique entertainment in that everybody in attendance will be housed in the same building and it will really be a big medical family meeting. We trust every reader of this notice will write Dr. Anderson at once.

The plan of entertainment is to be quite unique. On the afternoon of the second day the entire membership of the Association will be taken on one of the splendid Ohio River steamers for a delightful trip up the river. There will be music, dancing and refreshments and this feature of the meeting emphasizes the importance of bringing the wives and daughters of the members to the meeting. Be sure to include their names when you write Dr. Anderson making reservations for rooms.

SCIENTIFIC EDITORIALS.

ON THE ACTION OF ANTISYPHILITIC REMEDIES.

While the study of syphilis has made a wonderful progress in the last few years, particularly since the discovery of its cause and the Wasserman reaction, still the therapy of it is as yet uncertain in its results. Salvarsan did create a wonderful revolution in the treatment of syphilis and it showed that mercury is not a real specific, yet salvarsan itself could not claim specificity. Owing to the conflicting reports in regard to the true value of salvarsan and knowing that mercury is not a specific for syphilis, we are in the same light as that of the senator who used a very appropriate expression: "where are we at?"

A proper knowledge of a true therapeutic conception of syphilis cannot be obtained from a one-sided view. In order to give the true value of antisyphilitic remedies we are compelled to narrow down our knowledge to so-called trinity of drugs: mercury, arsenic and iodine.

Finger very appropriately called these three remedies "antisyphilitica," while Jenner calls them antisyphilitic "triad."

What is the real status of therapy of syphilis? Is there a real status? To answer this question one must impartially inquire into the opinions of scientific clinical observers and make his own conclusions.

Followers of the previous symptomatic method of treatment of syphilis base their views on the fact that mercury acted more upon the external appearances of the disease

rather than on the virus itself, for it was not able to prevent its recurrence.

Iodine seemed to the followers of symptomatic treatment of syphilis as specific against tertiary stage of the disease.

To arsenic, Siegmund attributed a roborant action, while Block and Unna claim the same roborant action from mercury. Jacquet and Debet, after extensive clinical research, came to the same conclusion as Block and Unna.

In regard to the mechanism or specific action of mercury, it must not be forgotten that outside of its direct bactericidal properties, Marquis and Welander claim that there is an indirect one, namely its influence in creating in the organism protective bodies. This is accomplished by the stimulating effect of mercury on the tissues. The latter theory seemed to gain favor among the majority of investigators. Then, there are again, many cases of syphilis in which Wasserman reaction was positive, that have gotten well with little or no treatment. Lesser and Schlossberg claim that there are many cases where mercury does not exert any influence whatever.

At times the spirochetæ disappeared simultaneously with the absorption of the infiltration, still they often may remain with the disappearance of the infiltration. There is no doubt that there exist a spirochetæ that is resistant to mercury, as it was shown in the experience of Erlich. The action of mercury is much stronger in fresh cases of syphilis, and the infiltration is very easily disintegrated by mercury. In regard to the influence of mercury upon the spirochetæ, the Hexheimer reaction cannot be obtained.

In view of all these facts we must admit that the therapeutical action of mercury is not entirely bactericidal and it appears, as though it might create protective power in the organism which enables the organism to combat with the disease. It must not be forgotten that many cases, as it was stated above, do not depend upon medication for its improvement.

Analogical conclusions may be made in regard to salvarsan. Like mercury it does not fulfill the requirements of complete sterilization of the tissues, that is, to destroy all spirochetæ by one or two injections. But unlike mercury, it performs greater services by clearing up the chronic and stubborn symptomatic phenomena which resist mercury and iodine. Still after all, we could not call salvarsan a real antisiphilitic specific. Fingert was right when he said that the prognosis of syphilis depends not on the energy of the treatment, but more so on the persistence of the organism of the disease itself.

In the interest excited by the new drug, the benefits of the older ones should not be forgotten.

M. L. RAVITCH.

ORIGINAL ARTICLES

THE VALUE OF AND NECESSITY FOR AN EARLY DIAGNOSIS IN ALL MALARIAL INFECTIONS.*

By GRAHAM E. HENSON, Jacksonville, Fla.

It is the opinion of the writer that if the mortality from malaria was 25 per cent, instead of less than 1 per cent, that the disease would have been totally eradicated, at least within the temperate zone, many years ago. If we read in our morning paper that ten thousand people had lost their lives in some fearful catastrophe, and that one hundred million dollars had been paid as a further toll to this disaster, we would gasp in horror; but I ask you, gentlemen, is it any less horrible when this loss is spread over a year's time? May we not rather ask ourselves as medical men if it is not even more horrible when we allow a preventable disease, such as malaria, to exact this toll from the United States every year—not last year, or some year a decade ago, but every year, for we are within the limits of conservatism when we place the economic loss to this country at these figures for the past many years. Osler¹ writes: "No infection except, perhaps, tuberculosis compares with it in the extent of its distribution or its importance as a killing and disabling disease." With the discovery by Laveran, in 1880, of the plasmodia in the blood of patients suffering with malaria, the demonstration by Ross of the correctness of Manson's theory that the disease is communicated to man by the mosquito, MacCallum's classical work on the sexual forms of the plasmodia, together with the more recent work of Darling², showing that these sexual forms can, by proper treatment, be eradicated from the circulation of man, together with the knowledge that gametes can never even form in the blood of man if the original infection is properly treated, renders the eradication of malaria simply a matter of education on these fundamental principles. When we consider in conjunction with these principles that the sporozoites and other forms of the plasmodia cannot exist in the body of the mosquito when the temperature reaches a level of 60 degrees Fahr., it is not hard to prophesy the complete eradication of the disease, at least in the temperate zone, when we all make proper use of this knowledge and with intelligence combat these infections as we should.

To successfully combat any disease a thorough knowledge of its etiology is essential.

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Yellow fever lost its terrors when we knew the part played by the stegomyia, bubonic plague will probably never become epidemic again with the knowledge that the pulex cheopis conveys the bacillus from rat to man, even before the days of vaccination against typhoid fever the knowledge that it is a water-borne disease helped us not a little in combating this infection; the same may be said of Asiatic cholera, and so on through all the list of communicable diseases is it shown that we must understand the etiology before we can expect to successfully cope with any of them. There is little doubt that a prominent factor in the continued endemicity of the malarial fevers is the fact that while all medical men will concede the disease is transmitted by the mosquito, there is not a clear understanding of all the phases of the evolution of the plasmodia in man and the mosquito, or how the change from one host to the other is effected. Let us follow therefore the principal stages of evolution the parasite undergoes in man, later in the mosquito, and how the change from one host to the other is effected, demonstrating how a break in the cycle at any point in either man or the mosquito would have to mean the complete eradication of the disease.

With the bite of infested anophes, sporozoites, lodged in the salivary glands of these insects and free in their saliva, are injected into the circulation of man. These young forms immediately assume ring shapes and the asexual stage of the parasite is under way. This cycle is referred to as the human cycle, the asexual cycle or the schizonic cycle, and embraces all the changes the plasmodia undergoes in man's circulation. It is a separate and distinct cycle to that which takes place in the body of the mosquito, to be described later. The parasites at different stages of development take on certain definite and well-known forms, producing characteristic changes in the corpuscles infected, and form a definite blood picture. The young hyaline ring forms vary, as do the older forms of the parasite, depending upon the particular species of plasmodia; have different staining qualities, vary in their morphology, and produce, as stated previously, characteristic changes in the red cells. As evolution proceeds the parasites enlarge, mobility increases or decreases, depending upon the type, pigment and chromatin increase, while the distribution of these constituents vary, depending also on the type of plasmodia. As the presegmenting stage is reached the chromatin gathers in clumps, pigment granules being distributed throughout the organisms. As the end of the human or schizonic cycle is reached many separate minute organisms may be seen to have developed within the para-

site, having the appearance of the small ring form from which the mature organism evolved; these are known as merozoites. As sporulation is completed rupture takes place and the contained merozoites, numbering from six to twenty-four, depending upon species, are liberated. It was formerly held that these minute parasites become free in the blood plasma and entered other red cells at their will. Bass³ has, however, demonstrated, during his experiments with the plasmodia in vitro, that these young merozoites die almost immediately when free in the plasma, and contends that only those able to enter red cells as a result of direct contact with them at the time of sporulation survive and are able to continue the process of schizogony. We do know that certain of them are able, in some manner, to re-enter red cells and that they do continue for a more or less indefinite time the cycle referred to as the human cycle. This cycle is repeated and repeated until treatment is instituted or nature sets up a natural resistance to further sporulation. We have not at this time a clear understanding as to why these organisms do not go on multiplying and multiplying, one sporulation following another until the patient would have to succumb to the amount of toxins generated. We do know, however, that certain cases of malaria will, without any treatment, *apparently* get well. I emphasize *apparently*, for, unfortunately, under the treatment instituted by a very large number of physicians the cure of their malarial patients, while *apparent*, is not real—it is not complete. Only in a difference of degree does the physician, in many instances, do any more than nature would. What is the actual condition found in the blood of patients having become infested with malarial organisms, in cases where no treatment or improper treatment has been instituted? Upon careful examination of their blood it will be found that the parasite is continuing its indefatigable cycle, not in sufficient numbers to produce clinical symptoms, but in sufficient numbers to keep the infection alive, when, following any condition that reduces the patient's resistance a relapse occurs, an exacerbation of all the previous clinical symptoms takes place and the parasites are again actively sporulating. It is this phase of the disease that often causes scepticism regarding the manner in which malaria is contracted, for persons many miles at sea or in sections where there are no mosquitoes, showing a true malarial infection, are unaware that they are constant harbingers of the plasmodia and do not realize that the exacerbations are simply sequelae of original infections contracted, possibly many years previous, during residence in infected mosquito sections of the world.

While relapses, which are the direct result of improper treatment, are serious in themselves on account of the inconvenience to the infected individual, a more serious aspect is the fact that these individuals are a source of menace to the community in which they reside. Why? The malarial parasites, like other protozoa, reproduce asexually while conditions favor their reproduction in this manner. Just as soon as conditions become unfavorable an attempt is made to reproduce sexually. Conditions for asexual development of the plasmodia become unfavorable under two circumstances—when schizogony uninterrupted by medication has gone on a sufficient time to render the individual immune, for the time being at least, or when it has been interrupted by insufficient or improper medication. This brings us to the consideration of the formation of gametes, as they are called, the sexual forms. It was originally held by the majority of authorities that sporozoites of a particular type later developed into the sexual forms, that is, that there were two types of sporozoites, certain ones producing the asexual parasites, others—the sexual forms. Schaudinn advanced the theory, which is now universally accepted as a fact, that there is but one type of sporozoite and that after a certain time the action of the human host causes the asexual parasites to undergo an evolutionary change and assume the sexual forms. This is what takes place under the conditions I have referred to, so that we see in the blood of these patients the male and female gametocytes, the male being known as the microgametocyte; the female, the macrogamete. It should be thoroughly understood that while these forms develop up to this point in man, further evolution cannot take place until they reach the stomach of the mosquito. A person may be in apparent good health for months or possibly for years without having clinical manifestations of malaria, yet be carrying these forms in numbers sufficient to infect every anopheles that happens to bite them.

Let us now follow the cycle that takes place in the mosquito. The insect feeding on the blood of man containing gametocytes sucks them up with the meal of blood. Evolution of the parasite, which had become stationary, is again under way. The first changes noted take place in the male—the microgametocyte—chromatin becomes situated around the periphery, the organism assuming a circular shape. Long, hyaline filaments are soon seen to protrude, numbering from one or two to five or six, depending on the species of plasmodia. A large amount of chromatin will be noticed in the stained specimen, situated throughout the entire length of the filament. They are actively motile, lash about, finally becoming

free from the parent body, which undergoes degeneration. These released filaments are the fully developed microgametes, which seek, penetrate and fertilize the female forms. Following fertilization an organism known as a zygote develops; it does not encyst but develops into an elongated form, an ookinete. This is an actively motile organism which penetrates the epithelial lining of the mosquito's stomach, lodging itself in the muscular wall of this organ. Evolution proceeds and the oocyst is here formed. In this body are formed the sporozoites which find their way to and become lodged in the salivary glands of the insect, become free in their saliva and are injected into man in the biting process.

It should be noted at this point that a complete description of the evolution of the parasite in man and the mosquito is not intended in the foregoing; it simply being the aim to emphasize and illustrate the more important changes occurring as evolution proceeds.

With a clear understanding of the etiology, let us now, in a general way, consider the prophylaxis. It is quite generally known and a fact almost universally accepted that the mosquito gives malaria to man. It is not as generally known or as universally accepted that man gives malaria to the mosquito. Acting upon the more thoroughly accepted doctrine, much attention has been given toward preventing mosquitoes from giving malaria to man, while at least the general practitioner has entirely overlooked the significant fact that without man first giving the infection to the mosquito this insect is absolutely unable to transmit it. I do not wish to be misunderstood as to my attitude on the advisability of continuing the fight against the mosquito wherever practical, but in many localities such a campaign is impractical; they cannot nor ever will be effaced from certain communities, while there is no community that cannot within a few months become free from gamete carriers, just so soon as the fundamental principles involved in the cycle of the plasmodia are thoroughly understood and appreciated by all medical men. Add to this propaganda the hearty co-operation of the laity and the eradication of malaria can be completed within a nation, state, county, or village, or in other words, it becomes a local issue. I shall not take up in detail a discussion of the many units that must enter into a campaign against malaria. The importance of the destruction of mosquitoes and their breeding places, the screening of the home and public meeting place should not be passed by lightly, but so much has already been written in regard to these prophylactic units that they are all perfectly familiar to you. They concern the sanitarian more especially than the physician,

while, to my mind, the most important prophylactic unit and one that has been sadly neglected concerns directly the practicing physician. I refer to the early diagnosis and proper treatment of all malarial infections.

The diagnosis of malaria may be considered under the heads of clinical and laboratory methods. I wish, in passing, to mention the so-called therapeutic test, only to condemn it. This test consists of giving quinine to suspected cases of malaria; those that respond to the medication are classified as malarial, while those that do not have to be content with some other line of expectant treatment. Inasmuch as malarial fever is not the only febrile manifestation that will respond to the action of the quinine salts and certain other febrile manifestations are self-limited, the fallacy of depending upon this test is self-evident.

A clinical diagnosis of malaria is seldom or ever satisfactory. We have, however, at times to depend upon it, but this should not deter us from making every effort to make, or obtain, a laboratory diagnosis. When we take into consideration the fact that there are so many disease processes the symptoms of which so closely simulate malaria, when we again consider that even in finding the parasites in the blood of our patients we may not have a complete key to the diagnosis, it is surely very evident what an imposition we practice on our patients when we do not avail ourselves of every opportunity to find out their real condition in suspected cases of malarial fever.

It is quite generally held that a laboratory diagnosis of malaria requires such time as to preclude the busy physician from attempting it. This is not correct, for with the adoption of a proper technique 90 per cent of all malarial cases can be diagnosed in little more time than is required for an urinalysis. Certain teachings are responsible for a bad technique and result in so many failures than attempts to arrive at diagnosis by laboratory methods are given up in disgust. For instance, in picking up a recent edition of a text-book on general medicine, I read the following directions for the examination of suspected malarial blood: "A drop of blood is taken from the finger or lobe of the ear during the chill, or an hour or two previously, while the temperature is rising." I protest against such teaching and would caution a man desirous of making laboratory diagnoses to time the taking of his blood smears, depending upon the type of infection he is most likely dealing with, so that smears are taken when the parasites are most numerous in the peripheral circulation. Sporulation of the aestivo-autumnal parasites takes place almost entirely in the deep tissues, the young merozoites appearing in the peripheral circulation from two to

three hours later and gradually disappear again within a few hours to complete their evolution in the deep tissues where sporulation again takes place. It will therefore be readily seen that if the advice I have quoted is followed and smears taken just before, or during, a chill, that this is the very time when there is the least likelihood of finding parasites in the peripheral circulation. Do not understand me and interpret my meaning that there will be no parasites, but at this particular time an hour or more spent in searching for parasites might be unsuccessful, while by proper timing and taking of the smear a very few minutes would suffice to demonstrate the plasmodia. In regard to the benign tertian infections, sporulation takes place principally in the deep tissues, but the young merozoites appear sooner and remain longer in the peripheral circulation than in the aestivo-autumnal fevers, so that the most likely hours for their detection are spread over a longer period. In the quartan type—seldom encountered in the southern state—sporulation is about equally divided between the peripheral circulation and the deep tissues, so there is not the same necessity for timing the taking of blood smears in these infections. A good general rule to adopt is to take smears between three and five hours after sporulation, which is characterized by the chill, or, in the absence of a chill, exacerbation of clinical symptoms. I have heard it said that it is not practical to wait for a laboratory diagnosis before instituting treatment. To this I would reply that in those extremely grave cases necessitating prompt treatment in nearly all instances a few minutes spent with the microscope will confirm a suspected malarial infection. I would urge the making of smears; if necessary, institute treatment, and at your leisure confirm the diagnosis with the microscope. In the very large majority of cases, however, a delay of one or two days, giving during this time non-specific symptomatic treatment, will do the patient less harm than the too universal habit of making a diagnosis in all cases of chills and fever. Tuberculosis, appendicitis, endocarditis, septic cholecystitis, pyelitis and many other conditions may closely simulate a malarial infection, so that it is very necessary that the proper treatment of these conditions be not delayed by calling them malaria and drenching them with quinine.

With the diagnosis established there is probably no disease which we can treat with more certainty of success than malaria. In quinine we have a true specific, one of very few we possess—in fact there is no drug so truly specific in the treatment of a disease as this drug in the malarial infections. Craig¹ in extensive studies on the action of quinine on the

plasmodia has demonstrated that all forms of the parasite in all stages of its development in man, except possibly the presporulating forms, are acted upon by the quinine salts. One has to read this author's very elaborate findings to thoroughly appreciate the true and full value of this drug in malaria. As previously referred to, Darling has conducted a series of experiments demonstrating that the gametes can, by persistent treatment with quinine, be entirely eradicated from the circulation of man.

It is not within the scope of this article to discuss the treatment of malaria, but it has been thus briefly referred to, for "The value of, and necessity for, an early diagnosis in all malarial infections" lies in the fact that with treatment promptly instituted one of the most important prophylactic units in a campaign against malaria has been taken advantage of.

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Thyroid Insufficiency in Connection with Nervous Conditions and Spastic Constipation in Women.—Selrt reviews nine cases of nervous disturbance accompanying hemorrhagic uterine affections, which he ascribed to defective functioning of the thyroid and treated with thyroid extract. Also eight cases of nervous disturbance accompanying retarded development of the internal genitals. The benefit from the thyroid treatment was constant and marked, the results so striking that he thinks they can be explained only on the assumption that the neuralgias and other nervous disturbances were due to excessive irritability of the nerve terminals which had gradually developed under the influence of protracted auto-intoxication from lack of normal thyroid functioning. This auto-intoxication may be the direct result of the thyroid deficiency or may be merely promoted and increased by it; in either event thyroid treatment has a distinct causal efficacy.

THE DIAGNOSIS OF THE SURGICAL LESIONS OF THE URINARY TRACT.*

By IRVIN ABELL, Louisville.

Until within recent years the recognition of such lesions was anything but accurate and many of the operative measures were, of necessity, exploratory in character. The first nephrectomy was done scarcely fifty years ago, while cystoscopy which permitted ureteral catheterization is in use hardly more than twenty-five years. To-day, in no other internal organs can such accurate diagnosis be made nor can we elsewhere so definitely forecast the extent, character and location of our operative procedures. Owing to the anatomy and physiology of the urinary tract many, in fact most, of its surgical lesions present, subjectively, many symptoms in common; these are briefly: disturbances of urination, pain, tumor, pus in the urine, blood in the urine, with the systemic evidences of infection, and the constitutional effects of deficient renal elimination. Considering these in the order named we find the disturbances of urination to consist of difficulty in expelling the stream, frequency of the urinary act, lack of control or incontinence, and painful urination.

DISTURBANCE OF URINATION.

Difficulty in Expelling Urine: Difficulty in expelling urine is caused by obstructions to the outflow or by loss of nerve stimulus to the bladder muscle: obstructions are occasioned by malformations, congenital or acquired, of the prepuce and meatus; by strictures of the urethra; by foreign bodies and tumors in the urethra; the writer has on three occasions found calculi, on one, tumor, and on one, a large black-headed shawl pin within the urethra obstructing the outflow of urine: enlargement of the prostate is one of the most commonly observed obstructions, affording obstruction not alone to the outflow of urine, but to the return flow of blood from the bladder wall, the obstruction of the return flow of blood from the bladder wall leads to congestion with frequent attempts at mriation: the obstruction to the outflow of urine may assume any degree from simple slowing of the urinary stream to a complete retention. Tumors of the bladder situated at or near the internal meatus, as well as tumors originating in the pelvic viscera, mechanically alter the contour and contractility of the bladder, interfering with its emptying power: in the female, tumors of the latter class and displacements of the bladder base into or through the

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vagina, with or without an associated prolapse of the uterus, are the most common causes of obstruction. The lack of nerve stimulus is noted in diseases and injuries of the spinal cord, as a result of which the motor impulse to the detrusor muscle is lost; in such patients the associated lesions unerringly point to the source of trouble. The same effect is not infrequently temporarily produced by operations upon the rectum and other pelvic viscera.

Frequency of Urination: Frequency of urination is commonly observed in infections of any part of the urinary tract from the posterior urethra to the kidney; it is usually the first symptom of tuberculosis of the kidney, at times the only subjective symptom of a stone in the kidney or ureter, always present with stone in the bladder, infections of the bladder and infiltrating tumors of the bladder. In the female, pressure from the uterus, pelvic growths, adhesions between the bladder, omentum, intestines, or pelvic viscera give rise to vesical irritability; injuries of the pelvic floor or relaxations of the pelvic outlet with resultant bladder displacement and infection are also noted as causes of bladder frequency. Foreign bodies in the bladder, such as chewing gum, pieces of catheter, etc.: constitutional diseases such as diabetes and neurasthenia. Irritation of bladder with frequency of urination may be due to diverticula, to acid urine, to crystals, to residual urine, to the congestion of pregnancy and menstruation: to tumors of the posterior urethra, prostatic infections and enlargements.

Lack of Control and Incontinence: Lack of control and incontinence are seen in severe inflammatory diseases of the bladder and calculi in the bladder; at times, renal calculi cause such intense bladder spasm as to prevent perfect control; injuries to the bladder and cut-off muscles occur during childbirth and may follow operative or accidental trauma: obstructions due to prostatic enlargement or stricture, which give rise to over-distention of the bladder, may result in incontinence or dribbling of the over-flow: complete paralysis of nerves supplying bladder will cause retention with dribbling: atony of bladder muscle and contraction of the bladder resulting from long continued inflammatory disease, whether of pyogenic or tuberculous origin, will produce incontinence.

Painful Urination: Painful urination may be caused by inflammation of the bladder or posterior urethra, suppurative, gonorrhoeal or tuberculous: irritation of bladder mucosa by intensely acid or alkaline urine, uric or oxalic crystals: tuberculous or suppurative diseases of kidney: stone in the urethra, bladder, ureter or kidney, inflammatory diseases of pelvic viscera, tumor of urethra or bladder,

kink, stricture and inflammation of ureter, involvement of the ureter resulting from adjacent inflammation notably appendicular. This latter condition has been observed frequently after all appendiceal symptoms had entirely subsided.

Pain: Pain as a symptom may be located at any point in the urinary tract and is frequently felt at a site widely distant from its point of origin. In infection of the bladder the pain is usually felt in the bladder, in the urethra, at times referred to the rectum and frequently to the sacral region. Calculi in the bladder cause pain in the bladder which at the end of urination is felt along the course of urethra, being most intense at external meatus. The classic renal colic may be produced by any lesion which obstructs the ureter—stone, detritus from renal suppuration, kinks or valves in ureter, pressure from tumors or aberrant vessels, severe renal congestions whether due to infections, calculi, or showers of crystals: hydronephrosis due to nephroptosis. The pain due to renal and ureteral calculi may be felt at their point of lodgment, that is in the renal area or at any point along the ureter: it may be referred to the bladder, to the abdominal wall or lumbar region: when the stone obstructs the outflow of urine the pain is usually sharp and agonizing, being referred to the kidney, ureter, bladder, urethra, and at times to the testicle: it must be remembered that any form of obstruction will give rise to the same symptom complex. The pressure pains of calculi are felt at point of lodgment or referred to back, abdominal wall or bladder. The pain of renal infections and suppurations is usually felt in the affected kidney but may be referred to the bladder, frequent and painful urination, without bladder involvement, being frequently met with in renal tuberculosis, renal calculi, and pyonephrosis. Benign bladder tumors rarely give rise to pain until bladder infection occurs, when it is of the character common to cystitis: malignant bladder tumors may also be painless, not only in their incipency but during quite a period of their course: usually when infiltration of the bladder wall is sufficient to give rise to disturbance of urination pain becomes quite constant. Tumors of the kidney cause dull aching pain in loin: frequently none at all. Hydronephritic tumors, if of rapid development, cause pain, if slow of development, frequently painless. Many observers have referred to the reno-renal reflex, meaning by this pain felt in the kidney opposite of the one diseased. This has never come under my personal observation and judging from reported cases it is rare but must be borne in mind as a possibility in any given case.

Tumor: Tumor as a symptom of the lesions of the urinary tract may be caused by calculi, new growths or by distention of the bladder, ureter or kidney. Solid tumors represent new growths or inflammatory deposit, either of which may occur in any portion of the urinary tract. Such tumors are usually hard and constant in size, increasing with additional growth or more extensive inflammatory involvement. Prostatic tumors are hard and vary in size from those which are felt only per rectum to those which may be plainly evident upon abdominal palpation. Stones in the bladder and kidney may rarely attain such size as to give rise to more or less symmetrical, rounded, elastic swelling in the lower abdomen; the size is limited solely by the distensibility of the bladder, the writer having observed one instance where the fundus of the bladder reached two inches above the umbilicus. Distention of the kidney may be due to the accumulation of pus or to the retention of urine due to obstruction in the ureter. Such cases may be classified as fixed and intermittent; in the former, the tumor remains fairly constant in size, is more or less elastic, not acutely sensitive in the hydronephritic type, very much so in the pyonephritic. The disappearance of such a tumor with the discharge of a large quantity of urine or urine with pus clearly indicates its origin.

Pus: Pus in the urine signifies an infection at some point along the urinary tract, the urethra, prostate, bladder, one or both kidneys. It may vary in amount from a few cells to large quantities. If from the posterior urethra alone the two glass test, having the patient pass urine in two glasses, will serve to determine its origin: if the first urine passed contains pus while the second glass does not, the pus comes from the posterior canal; if second glass contains pus, the bladder, one or both kidneys, or all three may be the site of origin. Neither macroscopic nor microscopic examination will serve to determine its point of origin; it must be borne in mind that it is but a symptom of infection at some point, which point must be determined by the methods given later, when a correct interpretation of the value of the symptoms may be made.

Blood: Blood occurs in the urine in varying amounts: in inflammatory lesions it is usually slight in quantity, severe bladder infections often proving an exception to this statement. Microscopic blood, that is, in amounts so slight as to require the microscope to detect it, is noted in incipient tuberculosis of kidney and bladder, in vesical, renal and ureteral calculi, in inflammatory lesions of entire tract, and in beginning tumors. Large

quantities of blood especially suggest stone, tubercle, and tumor of bladder and kidney; also found in renal irritation from drugs and parasites, nephritis, certain of the infectious diseases, notably measles and scarlet fever, purpura, hemophilia, nevi of bladder or renal vessels, and in severe toxæmias of constitutional origin. Certain types of hematuria strongly suggest the location and cause. Terminal hematuria, blood noted at end of urination, is produced by lesions of posterior urethra or vesical trigone, occasionally by stone in bladder: urine admixed with bright blood containing no clots, is usually of bladder origin: urine with dark bloody color, containing no clots, is usually of renal origin. Symptomless hematuria, the passage of much bloody urine without other accompanying symptoms or disturbance of urinary function, strongly suggests tumor: bloody urine with bladder spasm is fairly constant in tuberculosis: hematuria following exercise or jolting, diminishing with rest, suggests stone, whilst that occurring in tumor and tuberculosis is uninfluenced by exercise and rest, and often remains undiminished by treatment. Finally, there remains a certain number of cases in which no cause can be found for the bleeding. These have been grouped under the heading of essential hematurias. With our increasing knowledge of the lesions of the urinary tract and better methods of diagnosis, this group has become much smaller in recent years and doubtless will become still smaller as clinical experience and pathological observations increase our knowledge. That it still remains a definite lesion is indicated by reports of such cases in current literature, some of which have been cured only by nephrectomy.

Constitutional Symptoms: Constitutional symptoms of infection of the urinary tract vary with its site and the presence or absence of obstruction: in the lower urinary tract, if there be no obstruction to the outflow of urine, constitutional symptoms are usually mild or entirely absent, due to the fact that the toxins are washed out with the urine as rapidly as they are formed: with the presence of obstruction and the retention of infected urine, the symptoms of intoxication depend on the virulence of the infecting germ. In cases of long standing or in the aged and feeble the infection soon leads to an urinary toxæmia or septicæmia, with recurring chills, pyrexia, profound depression and death. Infection of the upper urinary tract usually give rise to constitutional symptoms in direct proportion to the extent and virulence of the infection; repeated chills and fever with mild or unnoticed local symptoms may be the only subjective evidence of a pyelitis. Frequently in

renal infections, where the urinary drainage is unobstructed, the fever is of mild degree, while the general health of the patient gradually deteriorates due to toxine absorption and deficient renal elimination. Patients with chronic suppurative renal lesions often show periods of complete freedom from constitutional symptoms, during which time urinary drainage is good, the urine exhibiting quantities of pus: with the onset of obstruction, the amount of pus in the urine perceptibly decreases and there is a corresponding onset of the evidence of intoxication. The constitutional symptoms due to obstructions and calculi are those due to the coincident defective renal elimination plus the absorption of toxins from a complicating infection. The constitutional symptoms due to tumor in any part of the urinary tract are those due to the toxæmia of infection, the defective renal elimination, and in malignant cases the inroads of the malignant invasion produce the characteristic cachexia.

Deficient Renal Elimination: Deficient renal elimination is one of the most important symptoms of lesions of the urinary tract, since the recovery of the patient largely depends upon its extent and the possibility of its elimination. The terminal symptoms of faulty elimination are patent and need hardly be considered here: the important facts to be determined in a given case are: first, the amount of work the kidneys are doing; second, the capacity or efficiency of the kidney in the event of operative procedure. The first can readily be determined by an analysis of several consecutive twenty-four hour collections: the second can not, unfortunately, be so readily ascertained. We can know what the kidneys are doing but what they will do when subjected to the added strain of an anaesthetic and an operation still remains in many instances an unknown factor. But few of us have escaped the disaster of death losses from suppression of urine following operation even when previous examinations had given no cause to fear it. Many laboratory tests have been devised with the idea of accurately ascertaining the renal efficiency, some of which are so technical as to prevent their general employment. In the opinion of the writer, no one test will suffice for the satisfactory solution of the question. In my experience it is best judged by the clinical condition of the patient considered in connection with laboratory tests: careful physical examination with especial reference to the heart, blood vessels, blood and blood pressure: an analysis of several consecutive twenty-four hour collections of urine: and finally, the phenolsulphonephthalein test. This consists in the injection of 1 c.c. of a solution, containing

6 mg. phenolsulphonephthalein, into the muscles or subcutaneously and noting the time of its appearance in the urine and the amount eliminated in the ensuing two hours. Previous to the injection of the drug patients are instructed to drink freely of water so that a free flow of urine may be had. After the drug is injected a catheter is inserted in the bladder and the urine allowed to drop into a solution rendered alkaline by the addition of sodium hydrate. As soon as the drug appears in the urine and comes in contact with the alkaline solution it will give a bright violet or pink color. In normal cases this will be noted in from five to twelve minutes. If there is no obstruction to the outflow of urine the catheter is then withdrawn and the patient allowed to urinate at the end of one hour and again at the end of the second hour. If obstruction be present the urine is withdrawn at the end of the first and second hours by means of the catheter. The amounts collected are then separately diluted and rendered alkaline so that the proper color of the drug is brought out, the amount of which is then estimated with the Dubosecq colorimeter by comparison with a standard solution. In normal cases it will usually be found that from forty to sixty per cent is excreted during the first hour and from twenty to thirty-five per cent during the second hour. When the appearance of the drug in the urine is delayed and the amount of elimination totals less than fifty per cent for the two hours, it may be safely assumed that the renal efficiency is impaired. Experience has shown that in such cases where the exigency permits, it is wise to delay operation until renal elimination can be improved.

It has been stated that it is an excellent practice to have a routine method of examination for all patients: this is especially true of the urinary tract. Experience has shown the following to be most satisfactory: first, a careful history of the patient's illness should be taken; this should include family history, personal history with reference to possible causes: the physical examination should be thorough and will include palpation of kidney areas, course of ureters and bladder: bimanual examination of the pelvic organs of both sexes, rectum, prostate, urethra, vagina, uterus and broad ligaments: urinary analysis should be as extensive as the findings indicate: preferably a twelve hour specimen for determination of pathological contents: if pus is present stained smears should be examined for both pus and tubercle germs: to estimate renal efficiency, several 24 hour collections should be examined for renal derivatives and the output of solids determined, followed by the thalein test: the patency of the urethra and the presence or absence of resi-

dual urine can be determined by the passage of a catheter: exact knowledge of the urethra and bladder should be obtained with the cystoscope: in the course of this examination, the findings, with the history of the case, will reveal the desirability of securing specimens of urine from each kidney: the analysis of which will reveal the character of urine secreted by each kidney with such pathological contents as it may exhibit. This is accomplished with the ureteral catheter, the passage of which into the pelvis of the kidney will demonstrate the patency of the ureters: finally, skiagraphs of both kidneys, ureters and the bladder will complete the examination. In the event of shadows being found along the course of the ureters, second plates should be made after having inserted shadowgraph catheters: these will serve to differentiate concretions in the ureter from phleboliths or calcified glands. In the event that the catheter encounters an obstruction in the ureter, plates should be made with shadowgraph catheter passed to the site of the obstruction: should the plate fail to reveal a calculus, 10 c.c. of a 10 per cent. collargol solution should be injected through the catheter and another plate made with the catheter in situ: the collargol being impermeable to the ray, a shadow will be obtained showing the size and course of the ureter with the size, shape and location of the renal pelvis. A study of the collected data, the history, symptoms physical, cystoscopic, laboratory and X-ray findings will then, in the vast majority of cases, permit of an accurate diagnosis.

Erysipelas and Diabetes.—Welz reports a case in which a merchant of 52 convalescing from severe erysipelas of the face with slight participation of the heart, kidneys and liver in the infection, developed diabetes which gradually subsided again so that the urine was free from sugar by the twenty-fifth day. It reached 5.8 per cent. at one time. In a second case the diabetes had come on likewise during convalescence from severe erysipelas of the face; the patient was a previously healthy man of 49. The erysipelas had kept him in bed for four weeks and the diabetes following it proved fatal by the end of the sixth month. Severe organic changes were evident in both pancreas and liver at necropsy. There must have been some congenital predisposition to diabetes in these cases, he thinks, which was fanned into a flame by the severe erysipelas; without it or its equivalent the patient might have escaped the diabetes.

VACCINE THERAPY AND THE WIDAL REACTION IN TYPHOID FEVER.*

By BURNETT W. WRIGHT, Bowling Green.

Vaccine as a therapeutic measure in the treatment of typhoid fever have been of little value and various serums have likewise failed to exert a beneficial influence during the course of the disease. It is as a prophylactic agent that anti-typhoid vaccine deserves mention as one of the most remarkable agents in preventive medicine. The most convincing results of its efficiency have appeared in the armies of the world, where anti-typhoid vaccination is now extensively practiced. In the United States army, the occurrence of the disease has been ten times as great among the unvaccinated and some recent statistics have revealed more deaths among the unvaccinated suffering from the disease, than cases among those who had received it. Typhoid has been almost unknown among the troops mobilized in Texas during the past year, in a locality where typhoid fever ranks with malaria in frequency.

The immunity is produced by injections of killed typhoid bacilli, in doses ranging from 50 million to a billion, depending on the age of the patient and the number of previous doses. From two to four doses are given at intervals of ten days apart and certain precautions in its preparation and administration must be observed. Cultures are grown at incubator temperature for 48 hours on bouillon or agar and suspended in normal saline solution. This is inactivated in a water-bath at 53 degrees C., to kill the bacteria. Second plants are then made from the emulsion to determine if the killing has been complete and if no growth occurs at the end of 48 hours, at 36 degrees C., incubation, the bacteria are ready for counting. The technic of this is as follows: A red blood cell estimation is made in a normal individual and his count determined. An equal quantity of his blood and of the emulsion of killed bacteria are mixed on a glass slide and the comparative number of red blood cells and bacilli determined by a microscopical count. Suppose the red blood count showed the individual blood to contain 4 million cells to the cubic millimeter and the ratio of typhoid bacilli to red blood cells to be 100 to 1. Then it is easy to infer that 1 cubic m.m. of the bacterial emulsion will contain 400 million bacteria. With this as a basis the dosage is made large enough for easy handling by diluting with normal saline solution and adding lysol or trikresol as a preservative. Certain individuals are very sus-

*Read before the Warren County Medical Society.

ceptible to inoculation and may show a reaction that at times, is alarming. For this reason it is wise to make the first dose very small in every case and regulate the number and size of the subsequent doses accordingly. This has been designated a "test dose" and may be as small as 50 thousand bacteria. If the patient shows no reaction, which is made known by pain, tenderness, redness and swelling at the site of the injection, a rise in temperature and a slight headache, accompanied sometimes with a very rapid pulse and general muscular aching, it may be considered safe to begin with 500 million as the first dose for an adult. If no reaction follows this dose, the immunizing doses of a billion each. If, however, a susceptible individual is encountered who has reacted to either the test dose or the first inoculation, it is wise to divide the size of the dose as the immunity develops, until the full number of bacteria have been received.

Absolute asepsis should accompany the administration of the vaccine and certain precautions on the part of the patient should be carried out, to minimize the possibility of an uncomfortable and disagreeable reaction. Strenuous exercise should be interdicted for 48 hours and exposure to hot sunshine should be avoided. At any suggestion of nausea or headache, following a dose, the patient should go to bed and remain for several hours at least. Reactions are most frequent following the first dose, because of the temporary lowering of the opsonic index, which reaches normal again in 48 hours and from then on, shows a steady increase until full immunity is established. Stock vaccines show many more reactions than prepared ones and in the administration of the latter they may be almost entirely avoided by the use of the test dose and the judicious dilutions of the subsequent ones. In a series of 60 inoculations in an epidemic last summer, I used the stock variety twice and these furnished the only reactions. None of those inoculated developed typhoid. The immunity from typhoid vaccination is said to last from two to three years, but in epidemics and with individuals in the same house with typhoid patients, it is best to repeat in a year.

The first week of any fever is one of much uncertainty to the attending physician and his expressions to the anxious family of such time-worn and meaningless phrases as "threatened with typhoid," "bilious fever," "malaria," "remittent fever," and the like, cover a multitude of sins. The usual plan is to give quinine in heroic doses, even in communities such as ours, where the discovery of a malarial parasite is the rarest of pleasures and to depend on its effect for the diagnosis.

If one sees the patient's temperature reach normal in the first week following the administration of calomel and quinine, the case is almost invariably classified as malaria, regardless of whether or not the sequence of chill, fever and sweat has been a feature of the case, provided a casual physical examination fails to find a cause for the rise in temperature. A failure to reduce the temperature at the end of the first week, with the slightest suggestion or absence of abdominal symptoms, a fairly typical tongue, the history of typhoid, only to have the embarrassing pleasure of finding the patient with a normal temperature at the end of the ten days or two weeks and the family rather skeptical as to our diagnostic skill. A few such experiences as these and the physician learns to say "threatened with fever" and to claim the false credit of having "broken-up" a spell of fever in its incipency. The routine examination of bloods with the bacillus of Eberth (spoken of as the straight-typhoid), as well as with the bacilli of para-typhoid (para-alpha and para-beta), will show a surprising number of positive reaction for the para-typhoid bacilli, when the ordinary Widal is negative. The agglutinating principle is the same in all, but each organism is a distinct member of the same family and differs materially in its clinical manifestations. It is essential, therefore, that you eliminate both para-typhoid and typhoid, by negative Widal reaction before looking further for the cause of the condition and this can only be done by a religious adherence on the part of the bacteriologist, to certain fixed rules of laboratory technique. A failure to comply with the recognized methods of making the Widal test, precludes any degree of accuracy in the results and renders the opinion of the laboratory worker, not only worthless, but dangerous. It is essential first, that the blood be procured from the patient not sooner than the 8th day of the fever. This may be sent a considerable distance to the bacteriologist, when allowed to try, without heating, on an ordinary glass slide or a slip of paper. A prescription blank serves in an emergency and at least two drops of blood should be sent. There should be in the laboratory, a fresh culture, planted daily one each of the bacillus of Eberth; para-alpha and para beta bacilli, on slanted types of organisms, at least 18 days old. These should be grown over night at incubator temperature and used for the tests on the day following the planting. A 1 to 10 dilution of the patient's blood in normal saline, when mixed with an equal amount of a milky emulsion of either of the above-named organisms in saline, making a 1 to 20 dilution in end, should cause a complete loss of motion

and agglutination of the bacilli in 30 minutes in positive cases. A known positive and a known negative blood, as well as a simple emulsion of the bacteria, should be prepared on separate hanging-drop slides as controls and no specimen should be reported negative unless the three types of bacilli show an absence of agglutination at the end of a half hour. On the other hand, a positive report should not be given for either of the three types unless all motion has ceased in the mixture of diluted blood and bacilli within the time limit and the bacterial emulsion still remains actively motile. While these three types of organisms are closely allied in their morphology, they do not immunize against each other and have little effect on their respective agglutinating powers in the bloods of infected patients. Many of the second and third cases of typhoid in the lives of certain individuals are explained in this manner, for an infection with any one of the organisms usually gives a lasting immunity to the particular type. I have found a positive agglutination with both the Eberth bacillus and the para-alpha organism, with a negative reaction with the para-beta in an individual with a history of having had typhoid twice in the last four years. An agglutination with any one of the three with a negative result with the other two, is a common finding and shows conclusively that they should be considered as separate infections.

INTESTINAL PARASITES WITH SPECIAL REFERENCE TO HOOKWORM DISEASE.*

By J. W. STEPHENSON, Pikeville.

In selecting the subject of this paper I was influenced largely by two factors:

First: That the Kentucky State Board of Health will soon launch a hookworm campaign in this county. This campaign will not only be to diagnose and treat the cases at present infected, but will be educational as well. They will establish temporary stations at various points in this county and will lecture on sanitation and the prevention of this disease. I think the medical profession of Pike County should get behind this movement and assist them in every possible way. Tell the parents in the homes in which you practice and bring all your hookworm suspects to these doctors. You will not only do a great thing for your community but will receive the everlasting gratitude of some mother whose children you make well.

Second: The extremely wide distribution of intestinal parasites, especially hookworm south of the Ohio and Potomac rivers.

The Rockefeller Sanitary Commission has about one hundred men in our Southern States engaged in the fight to eradicate hookworm alone. In studying the feces for hookworm they found multiple infection in a great many cases, such as round worm, whipworm, pinworm and the different varieties of tapeworm. These parasites may be apparent to the layman as in tapeworm when the segments are passed or their presence may be suspected by a number of indefinite symptoms. Their presence may be absolutely determined by a microscopical examination and finding the ova in the stools. This may be in some cases a simple matter, while in others it requires an arduous search. The recognition of the ova of the many intestinal parasites is not usually difficult when you once learn their general characteristics.

One must have a knowledge of the structure of the common vegetable foods in order to differentiate them from the parasitic content. The equipment necessary for this work need not be extensive. A microscope, centrifuge, cover glasses, slides, etc. To obtain the specimen it is not usually necessary to give a purgative as the ova is present in most all stools. Only a small amount of feces is needed for an examination. The objection to a pint jar full for instance as has been brought to me some few times is apparent to all, but the patient is not supposed to know these things and should be told by his doctor how to send his specimen in. A small vial or ointment jar is ideal for this purpose.

There are several methods of examination.

First: Smear Method. Add several drops of water to slide and then add a small piece of feces and stir into a thin emulsion. The objection to this method is that you have to examine too many smears, six to ten, and it takes too much time.

Pepper's method. Pepper discovered that hookworm ova especially had the property of sticking to the slides. He made a thick smear and allowed the heavier particles to settle for a moment, he then washed most of the material from the slide and examined. This method is not accurate for hookworm and of very little value in other intestinal parasites.

The Centrifuge Method. Mix a small portion of feces with water, all particles being broken up, then centrifuge for one minute. The supernatant liquid is poured off, more water is added to the sediment and centrifuge again. Repeat this performance once more. Then place a few drops of this sediment on a slide and examine with 2-3 objective. This is the method I use and I have found this method very accurate as you get rid of practical-

*Read before the Pike County Medical Society.

ly all the feces and have a clearer field in which to search for the various ova.

Vegetable fibers and hairs resembling larvae vegetable cells resembling the ova and cell capsules filled with fecal matter are the most confusing substances found in the feces, vegetable fibers and hairs are of unequal size, varying in length and thickness, some are straight while others are curved and spiral. Some have a hollow shaft running entirely through the fibre while others have none. They are frequently found in great numbers and present no motility. The larvae of the intestinal parasites are of uniform size. An alimentary canal can be made out which ends by an oval orifice anterior to the posterior third. As a rule they are not seen in great numbers, present motility and the ova are found. Vegetable cells are of irregular shape, size and color and they are divided by numerous partitions, this being a differential point from ova, the latter being uniform in size, shape and color.

Starch granules are clear highly refractile bodies, irregular size and shape. Some of these resemble hookworm ova and pinworm ova so closely as to require a close study to differentiate them. Starch granules are frequently found enclosed in cellular sacks. Upon the addition of a drop of iodine the starch granules give the typical blue reaction while ova do not give this reaction.

Ascaris Lumbricoides (round-worm) is the most common parasite found in man. The female carries the ova in large numbers, this ova being found and recognized in the feces. They differ from all other ova in that they have a double wall and present a roughened or irregular border. These ova are usually a light brown or may be black if the patient has been taking bismuth. The protoplasm of these cells is granular and at times you see a fully developed embryo within the shell.

Trichocephalis Dispar (whip worm). These ova are oval in shape and have a peculiar highly refractile button on each end. They have a thick double wall and are filled with a granular protoplasm. These ova are also stained light to dark brown by fecal pigment and are about fifty microns in length and twenty microns in width.

Oxyuris Vermicularis (pin, thread, or seat worms). These ova are asymmetrical, one side oval and the other flattened, while one pole is more pointed than the other. These ova present a double or sometimes a triple wall. You may find the granular protoplasm or you may find the fully developed embryo in the shell. These ova are about fifty microns long and twenty microns wide. These worms have a tendency to come out of the rectum while

asleep and may cause trouble around the vagina in girls.

Tape-worm, *Taenia Saginata* (beef tape-worm) may be thirty to forty feet in length and there may be over a thousand segments. You should always look for the head. The case is not cured unless the head passes. There is no hooklets on the head of this worm. The segments of this worm contain fifteen to thirty-five lateral branches to each uterus. In this way you may distinguish it from the *Taenia Solium* by holding a segment between two glasses, the *taenia solium* having only seven to fifteen lateral branches.

Taenia Solium (pork tape-worm). On the head of this tape-worm you find a double row of hooklets. This worm is not so apt to cause anemia as the beef tape-worm. It is easier expelled and not quite so long as the beef tape-worm. The ova of the above tape-worms are similar more or less spherical, enclosed in a radially striated shell. They are stained brown and in the ova of the *Taenia Solium* you may find the six hooklets.

Dwarf tape-worm or *Taenia Nana* has until the past few years been considered rare but now we know it to be one of the most common tape-worms in the South. It is very small, about one and one-half inches in length and contains one hundred and fifty to two hundred segments. The head is armed with hooklets and the ova are larger than from the other tape-worms and are not stained brown. These ova present a double shell, the outer being from forty to sixty microns in diameter. The inner shell from sixteen to thirty microns in diameter. The hooklets may be seen in the protoplasm.

Bothriocephalus Latus (fish tape-worm) is the largest parasite of man. It may be fifty feet or more in length. It is common in some parts of Europe and Japan but rare in this country. The head is like the bowl of a spoon in shape. It has neither suckers or hooklets but has two longitudinal grooves which serves the same purpose. The uterus is situated in the center of the segment and is rosette in shape. The larval stage is found in fish especially the pike. The ova are characteristic. They measure about forty-five to seventy microns, are brown in color and are filled with spherules. The shell is thin and has a small hinged lid at one end. This parasite often produces a very severe grade of anemia.

Taenia Echinococcus. The mature form of this tape-worm inhabits the intestines of the dog and wolf. The larvae develop in cattle and sheep usually but are sometimes found in man, where they give rise to hydatid disease or echinococcus. This condition is rare in this country but common in Iceland and Australia. The adult parasite is small and

consists of only four segments. It contains many ova. When the ova reaches the digestive tract of man the embryo are set free and find their way to the liver, lungs and other organs and form cysts. They also form daughter cysts within these. There is two layers to the cyst wall from the inner of which develop larvae. Each scolex has four lateral suckers and a double circular row of hooklets. These may be found in fluid withdrawn from the cysts or in the sputum or urine when the disease involves the lung or kidney.

Uncinaria or Hookworm. These ova are from sixty to seventy microns in length and thirty to forty in width. They present thin shell oval in outline, containing the segmenting protoplasm, which rarely fills the shell, leaving a clear one between the shell and protoplasm. The various stages of embryonic development is easily traced from the beginning of cell cleavage to the escape of the larvae from the shell. The larvae are frequently seen as they escape from the shell and may also be seen propelling themselves through the smear with a side to side movement. The above method of diagnosing hookworm is the only sure way as other conditions produce an anemia similar to that of hookworm.

HISTORY OF HOOKWORM.

An Italian doctor found a worm in a man he was performing an autopsy on in 1838. He could not establish the connection between the worm and the anemia of the man but thought the worm had something to do with it. About ten years later it was found that the extreme anemia so common in North Africa, known as Egyptian chlorosis was due to this worm. In 1879 it was shown that a great many laborers in the Saint Gothard tunnel, then in the process of construction were suffering from this disease, and its prevalence was delaying the work. About the same time it was found that this disease was present in the mountains of Northern Italy and was called mountain anemia. After this investigators from all parts of the world began reporting the finding of the worm with great frequency. The negro in some parts of Africa are practically all infected and there can be no doubt that this disease has been prevalent in the South since the introduction of slaves in the Seventeenth Century. For many years Southern doctors have recognized a severe anemia that they could not account for. Some of these individuals were dirt eaters. In 1892 the first definite diagnosis of the disease was made in this country. Since then a great many investigators have discovered the disease in various Southern States.

DISTRIBUTION.

Very few cases are found North of the Ohio and Potomac rivers and these are usually from some Southern state. In Porto Rico a commission found a severe grade of anemia due to Hookworm and this anemia was responsible for nearly one-third of the deaths on the Island.

RACIAL CONDITIONS.

Many writers claim that the disease is more prevalent among negroes, but much less severe. The immigration officials at San Francisco have found sixty-six per cent. of the Hindu aliens infected and a large number of Chinese.

SEX AND AGE.

Males are probably more frequently infected than females. Children more frequently than adults, but you may be infected at any age. Hookworm is more prevalent in the rural districts, due to the lack of sewerage and good sanitary conditions. In some of the country schools in Tennessee ninety-five per cent. of the children were found infected.

HOW THE PARASITE GETS INTO THE BODY.

The worms do not multiply in the body but the adult female deposits great numbers of eggs which are passed with each bowel movement. The eggs under favorable temperature, moisture and shade hatch out the larvae in about twenty-four hours. Within a week the larvae has shed its skin twice. It lives in the east off skin and is now in a stage to enter the human body, which it may do in one of two ways.

First: It may be swallowed in water or food.

Second: It may get into the body by boring through the skin producing a condition called ground itch or dew poison which is usually the first stage of this disease. After entering the skin the larvae enter the blood and makes its way through the heart and lungs and passes up the wind pipe or is coughed up and swallowed and finally enters the bowel. After entering the small bowel the larvae sheds its skin twice more, becomes mature and mates. The eggs have been known to appear in the stools six weeks after an experimental infection.

Effects Produced: Cases may be divided into four classes, light, medium, severe and extreme.

In the light cases the disease is not suspected until found by a chance microscopical examination. These cases are important from a prophylactic standpoint because they are capable of producing a severe infection in others.

SYMPTOMS.

If the infection occurs before puberty the mental and physical condition will be retard-

ed, the skin assumes a marked pallor due to anemia. In old cases the skin is dry and wrinkled. There may be swelling of the face, feet or ankles. There is an expression of anxiety and stupidity in severe cases. The appetite may be light or it may be ravenous. Lemons, pickles, salt, pepper, chalk, clay, ashes, tobacco, sand, gravel and wood may be some of the things appealing to the appetite of these unfortunate people. Nausea and vomiting may occur and there may be blood in the stools. The pulse is usually fast and has no relation to the temperature. There is a decrease in red blood cells and hemoglobin and other blood changes which time won't allow me to discuss.

These patients are frequently nervous and emotional. The muscles are soft and weak and the patient becomes tired easily. This has been called the lazy disease. The genital organs may be poorly developed and menstruation may be delayed for some years.

TREATMENT

Preventive: Hookworm disease is preventable. When we recall the fact that the hookworm does not multiply in the body we can readily see that this disease could be stamped out. Shade and moisture are essential for the development of the larvae and we all know that those who practice soil pollution usually choose the shady side of some bush and in that way they deposit the eggs in the most favorable place for the hookworm larvae. It at once becomes apparent that proper sewerage for towns and sanitary water closets for the country and education of the people would soon stamp out hookworm.

Curative Treatment: Give a dose of epsom salts the evening before to clear out all mucus and undigested food. The patient should have no supper. Your thymol being given the following morning. You may give one-half of the dose at 6 A. M. and one-half two hours later or you may give one-third of the amount at three doses at one hour intervals.

About three hours later you should give another dose of epsom salts to sweep out the thymol and worms.

Dosage: Under five years, seven and one-half grains; five to nine years old, 15 grains; ten to fourteen years old, 30 grains; fifteen to nineteen years old, 45 grains; twenty to sixty year old, 60 grains; over sixty years old, 30 to 45 grains.

The thymol should be mixed with an equal amount of milk sugar. The extra amount of milk sugar giving more bulk, therefore causing a wider distribution of the thymol in the intestinal canal. The thymol should always be put up in capsules to prevent the unpleasant burning sensation in the stomach. No

food should be given from the time you give your first dose of epsom salts until you have gotten a good bowel movement from the second dose. Never give castor oil or alcohol during this treatment. The patient should also take very little water and should be kept quiet to prevent unpleasant dizzy symptoms.

URETHRITIS.*

By L. T. ECKLER, Falmouth.

An inflammatory condition of the urethra of long or short duration, produced either by constitutional or local causes. It is either acute, subacute or chronic, simple, non-infectious or infectious.

Many cases are of the non-infectious type, and should not be looked upon with suspicion; since this source can be attributed to some debilitated condition of the system, or to some constitutional disease. Oftentimes the continued passing of urea in excess, bile, ammoniacal urine, or highly acid urine, through the urethra will produce urethritis; which will readily clear up under treatment of the underlying cause. Uric acid being the offender in most cases of highly acid urine. It has been my lot to meet with numerous cases of inflammation of the urethra, due to the presence of trouble higher up the urinary system; calculi, collection of mucus, pus due to various diseases of the urinary organs.

The continued presence of any pathological substance, or foreign material produces symptoms referable to the urethra. In the female a prolapse of the uterus causing pressure on the neck of the bladder, is an etiological factor. Vaginitis and inflammation of the glands of the vagina often produce, or are associated with inflammation of the urinary outlet.

These causes are mentioned among the etiological factors, since we too often reach conclusions that our cases are specific; when in many instances a more careful study would reveal them to be of the non-infectious class. In the male there is another condition which often is associated with trouble along the urethra, namely, prostatitis. These are troublesome cases and often present themselves for treatment. While medicinal treatment directed toward the prostate is very unsatisfactory; yet there is much we can do for our patients that will add to their comfort.

In infectious urethritis, we have as exciting causes, the gonococci and other pus producing organisms, as we often see in mixed infection. Here, also, injury to the urethra may be classed as an etiological factor. Again there might be infection from some other pus producing organism; for instance, a chancre in the urethra or mucus patches within the urethra

*Read before the Pendleton County Medical Society.

will produce urethritis with a discharge of blood and pus.

The clinical history, the length of time from last coitus and use of the microscope serve to differentiate it from the pus of gonorrhoea.

Unfortunately most cases encountered are due to infection by the gonococcus. The small coccus producing the symptoms has no respect for persons, neither does it consider previous conditions of servitude. It has its habitat among all classes, and is an unwelcome guest at all gatherings. It is known to all social circles. The gonococcus is found among statesmen and politicians, but is not limited to this class. It often accompanies the host to church and it may be into the pulpit. It is not limited to the city or town, our country brother also shares in its entertainment.

Among the etiological factors of gonorrhoeal urethritis, there are to be considered other causes than the specific cocci. It has been said that man gives himself gonorrhoea more often than he receives it." The importance of this statement meets with much discussion, and will be left for the society to thresh out. Some cases of gonorrhoeal urethritis have been reported, contracted from women who did not have the infection. Coition during her menstrual period or while she has her leucorrhoea being cited as a reasonable cause. Physicians are sometimes called upon to answer very delicate interrogations, regarding the chastity of the wife or of the husband. Personally, I have never encountered a case in which I could not directly trace the contagion.

The symptoms of gonorrhoeal urethritis, are an irritation about the meatus urinaris, after from three to fourteen days from the last exposure. Gluing together of the lips of the meatus with a more or less clear substance. There is increased redness of the mucous membrane covering the glans in the male with perhaps some degree of phimosis. The inflammation at the beginning seems to be limited to the fossae navicularis. Later it extends further back the urethra causing painful urination. The clear fluid becomes more copious and of a milky appearance. There is often chordee and bloody urination. At the end of several days the pus becomes of a yellowish color often tinged with green. The act of urination is dreaded by the patient who remembers the torture through which he passed upon previously emptying the bladder. Haemorrhage from the urethra most often occurs from sexual excitement or from injury or irritation. There is also associated with gonorrhoea more or less constitutional reaction. In many cases this is overlooked by the physician, but can, toward the end of the

case, be noticed with certainty. There are many other symptoms of gonorrhoeal urethritis, but these are sufficient to establish a safe diagnosis, especially gonococci is found with the microscope. Given a case of urethritis it is the duty of the physician to differentiate, between the simple and specific. This being the only difficulty at diagnosis.

A discharge from the urethra is not always to be hurriedly diagnosed as gonorrhoeal. We may create much disturbance and unhappiness by too freely and hurriedly passing upon the virtue of the wife or husband. Not only is a differential diagnosis important from the standpoint of happiness in the home, but also from a knowledge of complications and sequelae. The effects upon future posterity. If the physician will keep in mind the various after effects of gonorrhoea, it will at all times dawn upon them the importance of insisting not only upon a correct diagnosis but upon a complete cure.

Among many sad results of gonorrhoeal urethritis, the following deserve much mention: Blindness, sterility, mental despondency, insanity, prostatitis, cystitis, orchitis, epididymitis in the male, with infection of the uterus, tubes, and ovaries in the female; leading to a complete or partial sacrifice of her generative organs.

Another very important and troublesome sequelae of gonorrhoea, is stricture of the urethra, a condition producing much suffering and anxiety.

Naturally our patients desire to know just how long they will be suffering from their urethritis. In the non-infectious cases the physician is justified in giving a probable outcome in a certain number of days or weeks. In the infectious cases due to the gonococcus, prognosis should be very much guarded. The patient must be taught the extreme importance of persisting in treatment until dismissed by his physician. No physician is justifiable in dismissing a case of gonorrhoeal urethritis until he has made repeated attempts to find evidences of the infection hidden away to make their appearance in after life.

When given a case of urethritis, at once we are to consider the best plan of treatment to overcome the trouble. If due to constitutional disturbance, to overcome such condition should be the physician's aim, aside from giving temporary relief. The treatment of the underlying condition should be had. For example, the accumulation of uric acid or excess of urea or probably pus from disease further up the tract. Prostatitis, cystitis, vaginitis, etc., should, if they be present, receive appropriate treatment before a case of inflammation of the urethra is discharged as cured.

The following case serves to emphasize the importance of analyzing the urine before treatment is instituted.

Patient, female, age 70, mother of four children, history of much pain at different times in the region of the gall bladder, and a repeated attacks of urethritis, patient heavy, with rheumatic pains over the body. She urinated often, scanty, highly acid and highly colored urine. There was much swelling about the meatus urinaris, and the passing of a catheter produced much pain. Patient complained of burning and aching severely on attempts to empty the bladder. The urethra and bladder were washed out at intervals of three days with alkaline solutions and patient put upon alkaline treatment. She made a successful recovery in two weeks.

Recently some cases of urethritis, following the passing of renal calculus have been under my observation. These cases have been much benefited by the administration of urotropin. Piperazine, acetate of potash, hyoseyamus and buchu have been useful in the treatment of non-infectious urethritis. In the female the position of the female organs should be ascertained. Recently a case presented to me gave the following history. Patient, female, age fifty, mother of one child. She had always been delicate and twenty years ago had had a perineorrhaphy. Her condition at time of examination was about two weeks standing. There was intense burning and aching of the outlet, together with tenesmus when the bladder was being emptied. She was also unable to retain her urine. On examination the uterus was found to be low down and pressing on the neck of the bladder. The urethra was swollen and very tender. Patient had been in bed several days with but little relief. The uterus was pushed up and held for several days with absorbent cotton saturated with glycerine.

After a few days, soft rubber pessary was used, and douches of the vagina with salt solution were instituted. She was given citrate of potassium in fifteen grain doses, to assist in flushing out kidneys, bladder and urethra. Recovery in about ten days, with the result, that she had to continue wearing her pessary.

The treatment of gonorrhoeal urethritis, is to be considered as constitutional and local. The administration of tonics and of constitutional remedies is of most importance after the acute symptoms have subsided. To build up the system and overcome the reaction and ravages of the infection, is of much importance and should not be neglected. We would not think of dismissing a case of anemia due to an infection without prescribing some reconstructive; neither should we dismiss a case of gonorrhoeal urethritis without the administration of some good nutrient tonic.

Locally the treatment resolves itself into cleanliness and the application of antiseptics. Cleanliness is much of importance and should be so impressed upon the patient. Not only is it necessary to be clean, to produce healing of the urethral mucous membrane, but to prevent further infection of the various membranes. When possible to see the patient every day it is important to irrigate the urethra; being careful to reach the entire urethra. Care should be exercised, not to use too much force and wash the infection into the bladder, thereby producing gonorrhoeal cystitis. Some mild antiseptic added to the solution for irrigation is legitimate. I do not think it wise to begin irrigation in the early days of urethritis of specific origin, from the fact that often the infection remains limited to the fossa navicularis, and irrigation in such cases might carry the infection further back. In cases not accessible to the daily attention of the physician, it is well to teach the patient how to irrigate at home. I have had excellent results from the administration internally in the earliest stages of the following prescription:

Rx.

Balsam Capaibaa	zvi
Fl Ex Buchu	flzvi
Acetat Potass	zzi
Acacia et Aquae	qs zzvi

M. Sig.: One teaspoonful three times a day. This to be followed in four or five days by the irrigation treatment.

Recently the bacterin treatment has received much attention, and is giving excellent results. This, however, should be persisted in until a cure is complete and should be followed by constitutional treatment.

A case some weeks ago came to my attention and was treated by the bacterin route, with excellent results. The case was a neglected one and was complicated with epididymitis. Two administrations of five million each acted admirably. The doses were given at an interval of two days.

It is not within the province of this article to consider the treatment of the various complications and sequellae of urethritis and will not be attempted.

However, it is of importance to insist upon the patient, that he should persist in treatment until he or she is dismissed by the physician as cured.

There is much more that could be said concerning urethritis, but I trust this will be sufficient to bring out the things not mentioned as well as a discussion of those mentioned.

GUN SHOT WOUND OF ABDOMEN; REPORT OF CASE.*

By A. W. CAIN, Somerset.

Patient, male, 8 years old, was brought to Somerset General Hospital on July 16, 1914. Was playing with a 22 calibre rifle, which had been cut off till barrel for only 8 or 10 inches in length, when he shot himself, the ball entering two inches to the left and on a line with the umbilicus. When he arrived at the hospital about one-half hour after the injury, the pulse was 120, and beads of perspiration standing on the forehead, but he was not complaining of much pain, and did not have the appearance of great shock. We hoped that the ball had not done so serious damage. Assisted by Drs. Berlin and Wahle, we began the operation at 11 o'clock, just an hour from the time of injury, making our incision directly over the bullet wound, when we reached the peritoneum, we found the opening plugged with omentum, we then began to search for perforations, closing them as they were found, there were six in the small intestines, two in the ascending colon, just above the caecum, and one in the mesentery, which required closing. These were all closed with fine silk in the usual way, and as rapidly as possible, there was a large amount of blood in the peritoneal cavity, which was mopped out as well as we could without too great loss of time, at one point when there was the most bleeding, there was a hematoma in the walls of the vessel. After trying to satisfy ourselves, which is not always easy to do, that all openings were closed and hemorrhage stopped, the patient still being in good condition, the walls of the abdomen were closed by suturing the peritoneum muscles and skin separately. The operation was completed in less than one hour, the patient was put to bed with head elevated, and hot applications to feet, one quart of normal saline solution was at once administered per rectum by the drop method, one pint was then administered every four hours for the next twenty-four hours, in the same way. The patient suffered some pain which was relieved by 1-8 grain morphia, this was repeated four times in the first three days, on the third day 1-10 grain of calomel was given every twenty minutes until one grain was taken, six hours afterwards a soap-suds enema was given which failed to act, then an enema containing salts, glycerine and turpentine was given, producing a large action, and causing a great deal of gas to pass, which gave the patient much comfort. He had no food whatever till the fourth day. On this day the patient began to complain with difficulty in swallowing and pain about the angles

of the jaws. Fearing tetanus, 1500 units of tetanus antitoxin were administered, and in a few hours this symptom disappeared. We are still in doubt as to the cause of the symptom and the part played by the serum.

The temperature reached 101 on the third day only, the wound healed perfectly, the stitches were removed on the ninth day, and the result was all that could be desired, except we failed to locate the bullet.

COUNTY SOCIETY REPORTS

Pendleton—The Pendleton County Medical Society met at the Day House, on Wednesday, July 8, 1914, with the following members present: Beckett, Blackerby, Blades, Brown, Chipman, Clark, Cram, Eckler, Ellis, Hopkins, Kendall, John E. Wilson Woolery. After a report of clinical cases and the reading of a paper on "Exophthalmic Goitre," by Dr. Ellis, the meeting adjourned.

W. A. McKENNEY, Secretary.

Pendleton—The Pendleton County Medical Society met at the Day House in Falmouth, on August 12, 1914, with the following members present: Blackerby, Blades, Brown, Clark, Daugherty, Eckler, Hopkins, Kendall, McKenney, Nichols, Woolery. The meeting was called to order by Vice-President Dougherty, and after roll call and reading of the minutes of the previous meeting we proceeded to the business of the day.

We had a very good report of clinical cases, some of which were follow-up cases from last month, others new cases. We had two good papers, one by Dr. Eckler and one by Dr. Brown, both on subjects that elicited much discussion and while not all agreeing, some good points were brought out. After a good day we adjourned.

W. A. McKENNEY, Secretary.

Fulton—The Fulton County Medical Society had its meeting at Willingham Bridge on the 16th of May. It elected its officers for the year as follows:

John W. Naylor, of Cayce, President; S. Cohn, of Fulton, Secretary and Treasurer; H. Lutten, of Fulton, Delegate.

We had several papers and report of cases, interesting in every respect.

The meeting was treated with a fine barbecue and fish fry.

The regular meeting dates are the 15th of each month alternating between Fulton and Cayce.

S. COHN, Secretary.

*Read before the Pulaski County Medical Society.

Russell—The twenty-fourth annual session of the Russell Springs District Medical Society and the Russell County Medical Society held a joint session at Fairview church, a mile northeast of Jamestown, on July 4th. It was a "Public Health Session" with ten doctors on the program. After calling the roll only L. D. Hammond and J. B. Scholl answered present. Dr. Combest, (a non-member) came about the noon hour. The remainder on the program of the laity were present and took an active part in all the discussions. Those of the laity who were present and took active part in the discussions and asking of questions in regard to how to prevent disease, were Rev. J. S. Wade, G. F. Rexroat, Cooper Shepherd, Prof. Grover Brown, Prof. W. T. Mitchell, D. C. Hopper, Jones Walters and many others, who seemed to be anxious to learn about preventing disease.

About 9:30 A. M., L. D. Hammond, President of the Russell County Medical Society, and I, as President of the Russell Springs District Medical Society, held a short caucus, or consultation, and decided that as there were only two of us present, we could not transact any business, and only try to do our best to carry out all of the program we possibly could and tell the people how to prevent disease. We were chagrined, however, when the roll was called to hear only two of us answer present out of about twelve doctors in the county.

L. D. Hammond called the program before beginning to show the people what an important program and how many doctors were absent and show how little or neglectful some doctors are. Meanwhile some of the doctors had good excuses for not being present, probably all. Dr. Hammond, by request of Dr. Blair, gave his excuse, that Mrs. Blair was at the point of death. I know this to be true for I spent the night at Dr. Blair's the night before and helped the doctor with Mrs. Blair. This was the only excuse offered. Of course others had excuses and probably good ones.

At 9:30 A. M. after divine invocation by Rev. J. S. Wade, who read Deut. 23:11-13, and gave a lecture on cleanliness. He told the audience that Moses was a health officer many thousand years ago and compelled his subjects to be clean.

D. C. Hopper read a clipping from the Courier-Journal of last week, on the cost of typhoid, which was discussed at length and questions being asked by the laity, by Rev. J. S. Wade, W. T. Mitchell, Grover Brown, G. F. Rexroat, L. D. Hammond and J. B. Scholl, after which J. B. Scholl distributed a lot of health literature to the people on sanitation and typhoid and other preventative diseases. Also exhibited charts on privies, wells, flies and hookworm. At this time, 12 o'clock, noon, adjourned for one hour.

After dinner, I will say the best and most abundant I have ever seen, the meeting was call-

ed to order by L. D. Hammond.

J. D. Combest gave an interesting talk.

J. B. Scholl read a paper on the "Duties of Health Officers," which was discussed by L. D. Hammond, J. D. Combest and Prof. L. O. Phelps.

L. D. Hammond read a paper on "Medical Ethics." It was an exhaustive paper and could not be discussed only to say we all indorse it.

Elam Harris, gave a lecture on a "Clean Mouth." Discussed by L. D. Hammond and J. S. Scholl.

Will say that I have been attending medical meetings and societies for about a quarter of a century. I have attended the A. M. A., the Kentucky State Medical Association, The Kentucky Central and many county societies, but I never would compare with this one at a Fairview church for interest taken by the good citizens in the vicinity of that good little church house. They have attended a meeting in all these years that were all anxious to learn about how to keep well. There were some so interested in public health meetings they asked the President, Dr. Hammond, to call the next meeting at their residence. Dr. Hammond announced that it was his desire and intention to call public health meetings during the summer and fall at such places and time as seems most necessary or where people desire it and are interested.

I was at the church, which is situated in a shady grove, early, and saw the people begin to arrive. They came early in buggies, surreys, on bicycles, in wagons (and I think no automobiles that stopped at the meeting. However, there are a number in the county, I think).

By the time the meeting opened there were somewhere near 650 people. The seating capacity of the church house is 500 and I feel sure that there were many more that could not get in, so you can guess that there were at least 650 or 700 people present at the meeting.

In the rural district of Russell County at Fairview church, the largest medical and public health meeting ever held in Russell or adjoining counties convened, due to the faithful and untiring efforts of Drs. Hammond and Blair, the Committee on Arrangements. The multitude of good people almost such as the apostle John saw, consisted of women, young and old, men, young and old, children and babies. The best order and attention I ever saw anywhere or any place. Even the little babies behaved themselves. Am sure that all present know how to behave and have been raised by good parents. They were all dressed modestly, but neat and clean. So these people already know how to be clean and neat, but still willing to help the good cause.

The church house sits in a grove of oak trees with plenty of shade. It was clean, well lighted and its acoustics the best.

The singing by the choir was excellent. It

rendered vocal music during the day, when called upon to do so.

I feel, after twenty-four years of trying to prevent diseases, that I have been rewarded by attending the largest and best meeting ever held in this or any other county. Mr. Editor I do wish you could have been with us to have seen what us Russell County folks can do.

There are about twelve physicians in Russell county, only six are members of the County Society, God knows why the other six are non-members. I am sure if the President of the Russell County Medical Society and I knew the cause, we would try to remove the cause, but as there has been no reason given in writing why they do not join in the great work, of course we don't know what remedy to apply, but we, or I, still aim to work on and look onward and upward to that bright world of light where pure angel hands will help us do right.

Mr. Editor, you probably will realize how Dr. Hammond and I felt, when there were two society programmes to be rendered. We of course, just had up our own little lesson, but after finding that only two of us were present to begin with, we decided to undertake with the assistance of the above named laity, to carry out the elaborate program which kept us busy from start to finish.

Neither the President nor I were physically able to go through with the tiresome work, but both held out well, both of us together would not weigh over 220 pounds and looked like we had hookworm when we got through that evening.

However, it was a positive pleasure for the President and I to come in contact with those five or six hundred people who assisted us and help hold up the great cause of preventing diseases, saving life and relieving pain. This great crowd of people or multitude, who took such interest should be congratulated and their works and words will be remembered for centuries as helping in the first public health meeting in Russell county.

J. B. SCHOLL, Secretary.

Importance of Vitalized Air in the Etiology of Anemia.—Krotkoff found from his experiments on rabbits that they can bear with impunity considerable polluted air, with 8 or 10 per cent. of carbon dioxide, the blood remaining normal, but with loss of weight, provided the animals are healthy. The rabbits were then rendered anemic by injection of phenylhydrazin which reduced the hemoglobin to 15 or 30 per cent., the number of reds to 1,050,000. Three rabbits were kept in the open air and three in boxes closed up for two months. In both series the hemoglobin and red count became normal; the white count remained

unchanged. Krotkoff thinks that vitalized air can cause anemia in human beings only when there is some predisposition on the part of the blood-making organs to disease. Otherwise the bad air of prisons, workshops, etc., causes only pseudo-anemia, that is, pallor of the integument but with no changes in the blood.

NEWS ITEMS AND COMMENTS

CITY VIEW SANITARIUM.

It will be of interest to the readers of the JOURNAL to know that the City View Sanitarium of Nashville has just completed its new Mens' Department, which contains some fifty rooms. The old mens' building will be used for administrative purposes. These improvements add another complete Institution in the Southern states which will be welcome to the profession by this entire section.

The Journal acknowledges with pleasure an invitation from the faculty and Class of 1914 of the training school for nurses of Dr. W. B. Fletcher's Sanatorium, Neuronhurst, to be present at the graduating exercises, August 18th. It is always a pleasure for the JOURNAL to visit this splendid Institution.

Radical Cure of Femoral Hernia Operating through the Inguinal Canal.—Werneck reports the case of a man with right epigastric, inguinal and femoral hernia. He corrected the femoral hernia by way of the inguinal canal, ligating and fastening by the Barker technic, treating the hernia otherwise by Berard's "double curtain" method. The advantages of the technic followed were so striking in this case that he wonders why every one does not treat femoral hernia by the inguinal route as the routine technic. It permits the sac to be ligated much higher up, the advantages of which are obvious. It also does away with the long funnel of peritoneum left inevitably when the herniotomy is done entirely in the femoral region. With the latter technic the wall is much less solid than it can be made when working through the inguinal canal which permits other muscles to be drawn down to reenforce the wall. Another advantage of the inguinal route is that it permits at the same time measures to ward off inguinal hernia later; it is a frequent occurrence that persons who have been operated on for femoral hernia by the ordinary incision below Poupart's ligament develop inguinal hernia later.



J. W. Esses

PRESIDENT KENTUCKY STATE MEDICAL ASSOCIATION, 1914.

NEWPORT NUMBER

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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W. W. ANDERSON, Newport

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EDWARD SPEIDEL

SOCIAL SERVICE

DUNNING S. WILSON

GENERAL SURGERY

J. R. WATHEN, F. H. MONTGOMERY

MENTAL AND NERVOUS DISEASES

CURRAN POPE

PRACTICE OF MEDICINE

W. F. BOGCESS

VOL. XII. 

BOWLING GREEN, KY., SEPTEMBER 15, 1914

No. 18

EDITORIAL.

THE ANNUAL MEETING.

The Annual Meeting of the KENTUCKY STATE MEDICAL ASSOCIATION for 1914 will be held in Newport, September 23, 24 and 25th. The first session of the House of Delegates will be on September 22. Almost every doctor in both Campbell and Kenton counties are members of the CAMPBELL-KENTON COUNTY MEDICAL SOCIETY. They all expect every doctor in Kentucky to be present. Its officers and members are a unit in making such preparations for this meeting as will insure its success. They deserve and should receive the support of not only every county society but of the physicians and profession of the State in their efforts to break all records to make this the greatest medical meeting that has ever been held in Kentucky. It is especially important that every member who attends secure a certificate from his local agent, when he purchases his railroad ticket, so that he can secure his return ticket for one-third fare.

Have no anxiety about your rooms and good meals. Arrangements have been completed so that if every doctor in Kentucky should come and bring his family they would all be cared for with abundance of room, plenty of bath water and three good meals a day at the Blue Grass Inn, Newport. Write Dr. W. W. Anderson, Newport, for reservations. Best rooms to first applicants.

The JOURNAL confidently promises every tired, hardworking physician who comes to Newport such a hearty welcome and such a pleasant, profitable meeting that he will return home freshened up and stimulated for another year's work. This guarantee extends also to his wife, who more than in any other profession, shares the trials of her husband. Let's all get together and make the 1914 session the biggest and best yet held.

THE DISCUSSIONS.

The KENTUCKY STATE MEDICAL ASSOCIATION is a democratic organization, where every man is his fellow's equal in opportunity anyway. If you are interested in any subject on this program and don't discuss it, it will be your own fault. When you have read the program, pick out the papers in which you are interested and write the Secretary at once. Every paper on the program is, or soon will be, in print. A proof will be sent any member of any one paper. Then, will you, of your own experience and knowledge, deliberately and carefully, get up your discussions. Write it out if you prefer and hand it to the official stenographer just as you want it to appear in the JOURNAL. This plan worked well last year and will again this year, if the members like it. Write to-day for the paper you wish to discuss.

THE PROGRAM.

The program is again published in this issue. It is not quite complete but it promises enough good things to make it certain that no practicing physician can afford to miss it. We desire to call special attention to the fact that the Committee on Scientific work has arranged for a full program for the third day; in fact, in many respects, the third day is the best of the three. Many of the papers will be illustrated by lantern slides and we will be able to see exactly what is being talked about.

COMMERCIAL EXHIBIT.

We will have the greatest commercial exhibit that has ever been in Kentucky. We feel that we can really say this year that it would be worth one's while to attend the Newport session this year for the value of this exhibit alone. Only those firms can exhibit that

are reputable and have something worth exhibiting. Instrument men, pharmacists and everything else of interest, including long distance telephone, will be on hand to show you the very latest. Save your orders until you can see what you want.

BUSINESS.

This year again we publish in great detail reports of the Association's officers, giving every item of expense and every step taken by them during the year. Have your resolutions, speeches and reports all ready for the House of Delegates. Ample time is given for any county society to instruct its delegates on any subject, and the delegates from every county society should confer with his fellows as to what should be done at the meeting. Every member is urged to read all the reports. If there is any kicking to be done the House of Delegates is the best place to do it. We want the membership to take enough intelligent interest in this Association's affairs to kick intelligently. You are all stockholders in this great organization. It is your money being spent, your work being done, and if you are not familiar with all of its details, it is your fault not ours.

THE HOTEL.

The Blue Grass Inn at Newport is a beautiful hotel. In its one building, for the first time in the history of the Association, there will be ample room space for members and visitors, as well as commodious halls for the scientific sessions and House of Delegates and all exhibits. The Association this year will be housed as one big family. The arrangements are unusually complete. Be sure to attend.

ENTERTAINMENTS.

The Campbell-Kenton County Medical Society urges a large attendance at the State Meeting and that doctors bring their ladies with them. Among the social features will be automobile trips for the ladies to the army post at Fort Thomas and to the Zoological Gardens, the Rookwood Pottery, the Art Museum and other points of interest in Cincinnati and vicinity.

The members and their ladies will also be tendered a reception and dance on the palatial excursion steamer, "Island Queen," during a river trip to the Fern Bank dam and a moonlight evening on the water.

SCIENTIFIC EDITORIALS.

SKIN REACTION OF LUES AND ITS RELATIONSHIP TO WASSERMAN'S REACTION.

While Naguchi, in this country, has given us the Luetin test for syphilis, Klausner and Fisher, in the old country, have been experimenting on the same line. Naguchi's work was extensively tried in this country and also abroad. The concensus of opinion in regard to Luetin test is about the same in this country as it is abroad. The result may be summed up as follows: a great percentage—85 per cent.—of positive is obtained in tertiary syphilis, always a negative in the primary stage and only in very few cases a positive reaction is obtained in secondary stage. In the latent syphilis a positive reaction is obtained in about 40 per cent; in non-syphilitics, even large doses of half-diluted gave negative results, but you occasionally find a few cases where there is a slight skin reaction. Both the investigators, abroad and here, are of the opinion that Luetin is a splendid adjunct to Wasserman reaction and should be used conjointly in a great many cases.

Klausner and Fischer first published the result of their experiments in *Wiener Klinischer Wochenschrift* in 1913. They claimed that they succeeded in getting in syphilitics with tertiary stage, a skin reaction by using intradermal grafting of a watery extract of organs especially rich in spirochetæ (preferably from lungs affected with pneum. alba).

Mueller and Stein have tried very faithfully to verify the experiment of Klausner and Fischer's and the relationship of skin reaction to Wasserman reaction. Fresh pieces of syphilitic organs (lung, liver and adrenals) were thoroughly macerated in a mortar with beaded glass; the macerated mass was mixed with equal parts of physiologic salt solution and centrifuged; the upper part was poured off and heated for 25 minutes to 108 Fahrenheit; for preserving purposes, one-half per cent solution of phenol was added. The antigen prepared in such a way was injected with a thin needle through the thick skin of the shoulders and scapulas so as to get a very small blister; if technique was perfect there was no blood drawn. In case of a positive result, there soon appeared upon the grafted

place a bright, rather limited erysipelas-like redness, sometimes small infiltrations. Better results were obtained with extracts of adrenals; liver and lung extracts lose their power too soon. Alcoholic extracts of liver dried and then diluted with physiologic salt solution, at times, gives a strong reaction. To escape mistakes it is necessary to have control experiments with extracts of normal organs, because in some syphilitics, with such antigens you get a positive reaction. A negative reaction is noticed among gummatous patients (out of ten cases all plus, in WR., one case was negative). Out of 30 cases with manifestations of condylomatous syphilis, a positive reaction was obtained only in 6 (one case with Wasserman negative). Out of 12 patients with primary scleroses, two gave positive reaction (one of them with a negative Wasserman). In latent syphilis a positive reaction is obtained oftener in cases where a longer time has elapsed since infection; out of ten patients infected less than five years and given a plus Wasserman, only one gave a positive reaction; out of 6 with a negative Wasserman, only two gave a positive skin reaction; out of 4 infected more than five years and having a plus Wasserman, 3 gave a positive reaction.

It is rather peculiar that in one case in the gummatous period and for several years, giving a negative Wasserman, it became positive ten days after the patient was given an inoculation with extract of adrenals. This observation shows that inoculation of sterilized extract of syphilitic organs may act as an incitement to a positive Wasserman.

M. L. RAVITCH.

Thyroid Treatment of Myxedema.—Zuber reports the case of a young man who has taken thyroid treatment systematically for thirteen years. At the age of 8 he was the size of a child of 2, and although under the influence of the thyroid treatment then instituted he has developed both physically and mentally, he has never regained those six years he lost, his size and mental standing now being those of a normal, diffident youth of 15. In the discussion that followed his report, Ausset commented on the way in which the myxedematous improve to a certain extent under thyroid treatment and then seem to reach a stationary stage. At this point he has found it useful to combine the extract of other glands with the thyroid treatment; improvement progresses rapidly under the addition of hypophysis extract. Lesne adds epinephrin also, the arterial pressure being generally low in myxedema.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY SCIENTIFIC PROGRAM, NEWPORT SESSION, KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 23, 24, AND 25, 1914.

WEDNESDAY MORNING, SEPTEMBER 23.—9 O'CLOCK.

Call to Order by the President W. O. ROBERTS
 Invocation REV. JOSEPH W. HAIGHT
 Address of Welcome HON. AUBREY BARBOUR
 Response CURRAN POPE
 Report of Committee on Arrangements W. W. ANDERSON
 Installation of the President.
 President's Address J. W. ELLIS

SCIENTIFIC SESSION—10 A. M.

SYMPOSIUM ON TUBERCULOSIS.

Methods of Early Diagnosis B. K. MENIFEE, Walton
 Nasal Obstruction in the Etiology of Tuberculosis CLYDE E. PURCELL, Paducah
 Childhood Infection, Adult Death OTI SENOUR, Union
 Tuberculous Cervical Glands J. W. KINCAID, Catlettsburg
 Tuberculosis of the Kidney; Its Diagnostic Difficulties
 and Therapeutic Problems FILIPP KRIFISSL, Chicago
 ORATION IN MEDICINE—SPECIAL ORDER 12 M.
 A Brotherhood of Doctors WM. AUBREY POOLE, Henderson

WEDNESDAY AFTERNOON, SEPTEMBER 23, SCIENTIFIC SESSION—2 P. M.

SYMPOSIUM ON NERVOUS DISEASES.

Relation of Gynecological to Nervous Diseases GEO. P. SPRAGUE, Lexington
 Examination of the Spinal Fluid in Mental and Nervous Diseases H. P. SIGHTS, Hopkinsville
 Treatment of Deformities Following Infantile Paralysis W. BARNETT OWEN, Louisville
 Differential Diagnosis of the Paralyzes of Childhood JOHN J. MOREN, Louisville
 Clinical Aspects of Carbo Hydrate Metabolism LOUIS HAMMAN, Baltimore
 SYMPOSIUM ON CHILDREN.
 Enuresis in Children M. W. MOORE, Cynthiana
 Hemorrhage of the Newborn O. W. BROWN, Lenoxburg
 The Mentally Defective Child GEO. W. ARMES, Louisville
 Mediastinal Lymph Nodes in Children A. O. SISK, Earlington

WEDNESDAY EVENING, SEPTEMBER 23, PUBLIC SESSION 5 P. M.

Annual Oration Eradication of Disease VICTOR C. VAUGHN,
 President A. M. A., Ann Arbor, Michigan

THURSDAY MORNING, SEPTEMBER 24, SCIENTIFIC SESSION—9 A. M.

SYMPOSIUM ON PUBLIC HEALTH.

Four Years of Kentucky Vital Statistics W. L. HEIZEF, Bowling Green
 Rural Hygiene and the Sanitary Privy C. W. SHAW, Alexandria
 A Study of Typhoid Carriers A. T. MCCORMACK, Bowling Green
 Common Natural Causes of Sudden Death ELLIS DUNCAN, Louisville
 Alcohol as a Health Problem J. N. HURTY, Indianapolis
 Periodic Examination of Well Persons EUGENE L. FISK, New York

SYMPOSIUM ON SURGERY.

Who Should Do Surgery AP MORGAN VANCE, Louisville
 Exploratory Incision As An Aid to Diagnosis W. A. QUINN, Henderson
 Radium in Surgery M. L. RAVITCH, Louisville
 ORATION IN SURGERY—SPECIAL ORDER 12 M.
 Cancerous Growths in Plant and Animal Life—
 Their Relation to Frequency of Cancer in Man.
 Illustrated with Lantern Slides A. DAVID WILLMOTH, Louisville

THURSDAY AFTERNOON, SEPTEMBER 24, SCIENTIFIC SESSION—2 P. M.

Surgery in Headache G. A. HENDON, Louisville
 Bone Grafting in Potts' Disease and Ununited Fracture R. W. RYERSON, Chicago
 Considerations of Recent Advances in Genito-Urinary Surgery J. BENTLEY SQUIER, New York

FRIDAY MORNING, SEPTEMBER 25, SCIENTIFIC SESSION—9 A. M.

SYMPOSIUM ON SEROLOGY.

Practical Value of Serums, Vaccines, Etc., in Treatment LEON SOLOMON, Louisville
 Preparation and Use of Autogenous Vaccines JOHN D. ALLEN, Louisville

Placental Serum in the Toxaemias of Pregnancy . . . E. F. HORNE, Louisville
 Sero-Diagnosis of Pregnancy . . . H. J. FARBACH, Louisville
 Trachoma . . . J. A. STUCKY, Lexington
 SYMPOSIUM ON RHEUMATISM.
 Classification of Joint Lesions . . . W. J. GERDING, Newport
 Etiology and Symptoms of Acute Rheumatic Fever . . . J. M. SALMON, Ashland
 Prophylaxis and Treatment of Acute Rheumatic Fever . . . G. G. THORNTON, Lebanon
 Obscure Rheumatism of Childhood . . . S. P. GARRISON, Bellevue

FRIDAY AFTERNOON, SEPTEMBER 25, SCIENTIFIC SESSION
 —2 P. M.

Economic and Social Aspects of Deafness . . . ISAAC LEDERMAN, Louisville
 Treatment of the Middle Ear Through the Eustachian Tube . . . R. W. BLEDSOE, Covington
 Minor Lesions of the Pudenda . . . H. C. CLARK, Falmouth
 Uterine Myomata and Malignancy . . . JOS. G. GAITHER, Hopkinsville

OFFICIAL CALL.

THE SIXTY-FOURTH ANNUAL SESSION OF THE
 KENTUCKY STATE MEDICAL ASSOCIATION
 TO BE HELD AT NEWPORT, SEPTEMBER
 22, 23, 24 AND 25, 1914.

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association:

The Sixty-Fourth Annual Session of the KENTUCKY STATE MEDICAL ASSOCIATION will convene in the auditorium of the Blue Grass Inn, Newport, Kentucky, on Wednesday, Thursday and Friday, September 23, 24 and 25, 1914.

THE HOUSE OF DELEGATES.

The House of Delegates of the KENTUCKY STATE MEDICAL ASSOCIATION will convene in the parlor of the Blue Grass Inn at 1:30 P. M., on Tuesday, September 22, 1914.

FIRST GENERAL SESSION.

The First General Session, which constitutes the opening exercises of the Scientific functions of the ASSOCIATION, will be held in the auditorium of the Blue Grass Inn, Newport, Kentucky, at 9 A. M., Wednesday, September 23, 1914.

THE COUNCIL.

The Council will convene in the office of the Blue Grass Inn, Newport, Kentucky, at 10 A. M., Tuesday, September 22, 1914.

THE SECRETARIES OF COUNTY SOCIETIES.

The Association of Secretaries of County Societies will meet in the auditorium of the Blue Grass Inn, at 8 P. M., Tuesday, September 22, 1914.

THE REGISTRATION DEPARTMENT.

The Registration Department will be opened in the Exhibit Hall, Blue Grass Inn, Newport, from 10 A. M., to 7 P. M. on Tuesday, September 22, from 8 A. M. to 7 P. M. Wednesday and Thursday, September 23 and 24th

and from 8 A. M. to 11:30 A. M. on Friday, September 25th.

APPORTIONMENT.

Each chartered component county society will be entitled to the number of delegates opposite its name on the following list. Each society is entitled to one delegate for each twenty-five members, or major fraction thereof, whose dues have been paid to the State Association in accordance with the By-Laws:

Adair	1	Knox	1
Allen	1	Larue	1
Anderson	1	Laurel	1
Ballard	1	Lawrence	1
Barren	1	Lee	1
Bath	1	Letcher	1
Bell	1	Lewis	1
Boone	1	Lincoln	1
Bourbon	1	Livingston	1
Boyd	1	Lyon	1
Boyle	1	McCracken	2
Bracken	1	McLean	1
Breathitt	1	Madison	1
Breckinridge	1	Marion	1
Bullitt	1	Magoffin	1
Caldwell	1	Matshall	1
Calloway	1	Mason	1
Campbell-Kenton	3	Meade	1
Carroll	1	Mercer	1
Carlisle	1	Metcalf	1
Carter	1	Monroe	1
Cassidy	1	Montgomery	1
Christian	2	Morgan	1
Clay	1	Muhlenburg	1
Clinton	1	Nelson	1
Crittenden	1	Nicholas	1
Cumberland	1	Oldham	1
Daviess	3	Ohio	1
Elliot	1	Owsley	1
Estill	1	Owen	1
Fayette	3	Pendleton	1
Fleming	1	Perry	1
Franklin	1	Pike	1
Fulton	1	Powell	1
Garrard	1	Pulaski	1
Gallatin	1	Robertson	1
Grant	1	Rockcastle	1
Graves	1	Rowan	1
Grayson	1	Russell	1
Green	1	Scott	1
Greenup	1	Shelby	1
Hancock	1	Simpson	1
Hardin	1	Taylor	1
Harlan	1	Todd	1
Harrison	1	Trigg	1
Hart	1	Trimble	1
Henderson	2	Union	1
Henry	1	Warren	2
Hickman	1	Washington	1
Jessamine	1	Wayne	1
Jefferson	9	Webster	1
Johnson	1	Wolfe	1
Knott	1	Woodford	1

OFFICERS, 1914.

President	W. O. ROBERTS, Louisville
President-Elect	J. W. ELLIS, Masonville
Vice-President	J. L. NEEL, Drake
Vice-President	J. B. KINNAIRD, Lancaster
Vice-President	M. McDOWELL, Cynthiaana
Treasurer	W. B. McCLURE, Lexington
Secretary-Editor	A. T. MCCORMACK, Bowling Green
Orator in Surgery	A. D. WILLMOTH, Louisville
Orator in Medicine	W. A. POOLE, Henderson

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- DR. E. RAU, Bowling Green, Chairman
- DR. W. W. RICHMOND, Clinton
- DR. CYRUS GRAHAM, Henderson
- DR. C. Z. AUD, Cecilian
- DR. D. S. WILSON, Louisville
- DR. R. C. McCHORD, Lebanon
- DR. L. F. HAMMONDS, Dunnville
- DR. J. E. WELLS, Cynthiaana
- DR. J. W. KINCAID, Catlettsburg
- DR. I. A. SHIRLEY, Winchester
- DR. J. S. LOCK, Barbourville

Representative on Legislative Council, American Medical Association W. A. POOLE, Henderson

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.
KENTUCKY

J. W. KINCAID, Catlettsburg
A. T. McCORMACK, Bowling Green
A. H. BARBLEY, Lexington
W. W. RICHMOND, Clinton

MEMBERS OF STATE BOARD OF HEALTH.

DR. JOHN G. SOUTH, President, Frankfort
DR. GEO. T. FULLER, Mayfield
DR. C. A. FISH, Frankfort
DR. W. W. RICHMOND, Clinton
DR. I. A. SHIRLEY, Winchester
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DR. A. T. McCORMACK, Secretary, Bowling Green
DR. E. H. MARK, State Sanitary Engineer, Bowling Green
DR. W. L. HEIZER, State Registrar of Vital Statistics, Bowling Green
DR. L. H. SOUTH, State Bacteriologist, Bowling Green

PERMANENT COMMITTEES.

SCIENTIFIC WORK—J. W. Ellis, Chairman; W. W. Anderson, A. T. McCormack, Secretary.
MEDICO-LEGAL—J. J. Moren, Chairman; W. B. McClure, A. T. McCormack, Secretary.
LEGISLATION AND PUBLIC POLICY—C. Z. Aud, D. M. Griffith and Milton Board.
MEDICAL EDUCATION—W. W. Richmond, D. M. Griffith and C. A. Calvert.
EXPERT TESTIMONY—J. N. McCormack, Curran Pope, J. L. Plythian.
PREVENTABLE DISEASES OF THE EYE—M. M. Moss, J. A. Luckey, R. L. Collins.

COUNCILOR DISTRICTS.

FIRST DISTRICT.
BALLARD
CALDWELL
CALLOWAY
CARLISLE
FULTON
GRAVES
HICKMAN
LIVINGSTON
SECOND DISTRICT.
BRECKINRIDGE
CRITENDEN
DAVIES
HANCOCK
HENDEPSON
HOPKINS
MCLEAN
MUEHLBERG
LYON
MARSHALL
MCCrackEN
TRIGG
OHIO
UNION
WEBSTER

ALLEN
BARREN
BUTLER
CHRISTIAN

BULLITT
GRAYSON
HALDIN
HART

ANDERSON
BOONE
CARROLL

ADAIR
BOYLE
MARION

CASEY
CLINTON
GARRARD

BOURBON
BRACKEN
CAMBELL-KENTON
FLEMING
GRANT

BOYD
CARTER
ELLIOTT
FLOYD

BATH
BREATHITT
CLARK
ESTILL
FAYETTE
KNOFF

BELL
CLAY
HARLAN

THIRD DISTRICT.

CUMBERLAND
LOGAN
METCALFE
MARION

FOURTH DISTRICT.

HENRY
LARUE
MEADE

FIFTH DISTRICT.

FRANKLIN
GALLATIN
JEFFERSON

SIXTH DISTRICT.

GREEN
MERCER

SEVENTH DISTRICT.

LINCOLN
PULASKI
ROCKCASTLE

EIGHTH DISTRICT.

HARRISON
JESSAMINE
MASON
NICHOLAS

NINTH DISTRICT.

JOHNSON
LEWIS
LAWRENCE

TENTH DISTRICT.

LEE
LETCHER
MADISON
MENTFEE
MONTGOMERY

ELEVENTH DISTRICT.

JACKSON
KNOX
LAUREL

WARREN-EDMONSON
SIMPSON
TODD

SHELBY
OLDHAM
NELSON

OWEN
SPENCER

TAYLOR
WASHINGTON

RUSSELL
WAYNE

PENDLETON
ROBERTSON
SCOTT
WOODFORD

MAGOFFIN
MARTIN
PIKE

OWSLEY
PERRY
POWELL
ROWAN
WOLFE

LESLIE
WHITLEY



BLUE GRASS INN, NEWPORT, KENTUCKY

All the Scientific meetings and the Commercial and Scientific Exhibits and Registration and Information Bureaus will be held at the Blue Grass Inn, on the second floor of which the House of Delegates will meet.

CONSTITUTION AND BY-LAWS OF THE
KENTUCKY STATE MEDICAL AS-
SOCIATION ADOPTED AT PA-
DUCAH IN 1902 AS
AMENDED.

CONSTITUTION.

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II.—PURPOSE OF THE ASSOCIATION.

The purpose of the Association shall be to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar Associations in other States to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES.

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Sec. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4. GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privilege of participating in all of the scientific work of that Session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1), Delegates elected by the component county societies, and (2) *ex officio*, the officers of the Association as defined in Article VII, Section 1, of this Constitution.

ARTICLE VI.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII.—SESSIONS AND MEETINGS.

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII.—OFFICERS.

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The Officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Association for the past two years.

ARTICLE IX.—FUNDS AND EXPENSES.

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publication. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Session, for publication, and for

such other purposes as will promote the welfare of the Association and profession.

ARTICLE X.—REFERENDUM.

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XI.—THE SEAL.

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

ARTICLE XII.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.

CHAPTER I.—MEMBERSHIP.

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Association.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the Annual Session shall enter his name on the registration book, indicating the component society of which he is a member. When his right of membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at

that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE ASSOCIATION.

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

Sec. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

CHAPTER III.—GENERAL MEETING.

Section 1. The General Meeting shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Sessions as far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty-minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

CHAPTER IV.—HOUSE OF DELEGATES.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the ad-

dress of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 25 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate. In case the regularly elected delegate is unable to attend the annual meeting of the Association, the President of the county society shall have the power to appoint an alternate, who shall have the rights and privileges of a delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in these important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these

ends in view, five years after the adoption of the By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association which has not first been heard in the county society of which the author is a member.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Sec. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the Annual Sessions of the Association, and members of the chartered county societies and none others, shall be members in such district societies. When so organized from the Presidents of such district societies shall be chosen the Vice Presidents of this Association, and the Presidents of the county societies of the district shall be the Vice-Presidents of such district societies.

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions or JOURNAL.

CHAPTER V.—ELECTION OF OFFICERS.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees, the nominee receiving the least number of votes

on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Sec. 2. Any member known to have directly or indirectly solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

Sec. 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Sec. 4. Nominations for President shall be called for by counties.

CHAPTER VI.—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall elect one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Association and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books

the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as secretary of the Committee on Scientific Work. He shall be editor of the *KENTUCKY MEDICAL JOURNAL*. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—COUNCIL.

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a Chairman and Secretary and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association or under its control, with such suggest-

ions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the next annual election.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 2. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the Association, and all money paid to the Secretary as dues shall be received as subscriptions to the JOURNAL. All money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the

Councilor for the District in which he resides may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual session shall be within the control and direction of the Council.

CHAPTER VIII.—COMMITTEES.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Medical Education.

A Medico-Legal Committee.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman, and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Sec. 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general

charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and the Treasurer shall be the other two members *ex officio*. This Committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and, if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

CHAPTER IX.—ASSESSMENTS AND EXPENDITURES.

Section 1. The assessment of three dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-affiliated physicians of the county to the Secretary of this Association on the first day of January in each year.

Sec. 2. Any county society which fails to pay its assessment, or make the reports required, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money, shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

CHAPTER X.—RULES OF CONDUCT.

The principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XI.—RULES OF ORDER.

The deliberations of this Association shall be governed by parliamentary usage, as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII.—COUNTY SOCIETIES.

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State,

which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and by-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be had to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which, upon a majority, may permit him to become a member of an adjacent county society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a

county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Sec. 12. At the time for the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the annual session.

Sec. 13. The Secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 14. The Secretary of each county society shall report to the KENTUCKY MEDICAL JOURNAL full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

CHAPTER XIII.—AMENDMENTS.

These By-Laws may be amended by any annual session by a two-thirds vote of all the

delegates present at that session, after the amendment has laid upon the table for one day.

REPORT OF THE COUNCIL.

TO THE HOUSE OF DELEGATES:

Chapter 7 of your By-Laws provide that the Council shall make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the accounts of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association or under its control, with such suggestions as it may deem necessary.

Section 5, gives the Council authority to provide for the publication and distribution of all proceedings including the KENTUCKY MEDICAL JOURNAL. Section 4 of Chapter 6 also provides that the Secretary shall employ such assistance as may be ordered by the Council or the House of Delegates. In accordance with these provisions, we have the honor of submitting the following report of our activities for the current year:

On the first day of September one hundred less members had paid their dues than had done so a year ago. This does not mean that we have fewer members but that we have fewer in good standing. The problem of getting the membership to pay their dues on January 1st, while real, is not our greatest one. Those who pay late pay exactly the same amount as the ones who pay promptly but they do not receive the JOURNAL during the year, are not eligible for protection by the Medico-Legal Committee, cannot be recommended for reciprocity or for appointment as insurance examiners, but the real problem is to have each county society do such work as will cause its membership to be anxious to pay their dues at the proper time. In many counties the societies are even yet paper organizations and the individual members of the profession in such counties are still "pegging" along the old way without receiving the greatest value that comes from the organization in the attrition of mind against mind at the monthly meetings and the spirit of helpfulness that comes from doing real work together. It will be noted that for the first time since the Owensboro meeting, the expense of the Association has exceeded its income. This deficit is entirely due to the failure of the Jefferson County Medical Society to provide an income of \$2400.00 for the Jefferson County number of the JOURNAL. During the current year the income of the Jefferson County num-

ber of the *JOURNAL* has been \$1541.62, leaving a deficit of \$858.38. We are informed that an effort will be made by the Jefferson County Medical Society to meet this deficit before the Newport meeting. We are confident that every member of the Association recognizes the value of the Jefferson County number. It is the only medical *JOURNAL* published by a metropolitan society and its scientific work has been recognized generally by the profession. As great as its value is to our membership, it seems essential to the Council that the actual expense of publishing it should be borne by the Society which conducts it. If the members of that Society will patronize its advertisers because they are advertisers, they can easily not only make it self-supporting but soon have it paying money into its treasury. If they are unwilling to take this much interest in its advertisers, they should, and we feel sure, will, put their hands in their pockets and defray the cost of publication.

The Treasurer reports \$767.70 less cash on hand on September 1st than on the corresponding date last year. It will be remembered that last year there was a deficit in the income of the Jefferson County number of \$775.00. The Council directed that this should be charged off on condition that the Jefferson County Medical Society would meet its obligation this year and we are certain it will do so.

It will be noted that the expense of the Medico-Legal Committee, including attorney's fees, court costs and all other expenses, has amounted during the fiscal year to \$2940.30—an increase of \$1679.90 over 1913. The report of this Committee, published in this issue of the *JOURNAL*, indicates the extent of the services rendered. From a careful survey of the suits brought, the Council is of the opinion that the expenses of these suits, every one of them unjust and most of them merely blackmailing malpractice suits, would have been five to ten times as much under the old hap-hazard plan where they were defended by the individual doctor without assistance from an experienced central office. We are impressed with the fact that this expense will continue to increase for several years. The passage of the Workmen's Compensation Bill by the recent Legislature, a most wise and beneficent piece of legislation itself, will prevent many of the personal damage suits which have been brought by the ambulance-chasing class of attorneys who usually bring such suits upon contingent fees. Through the activities especially of the Jefferson County Society, inspired largely by the Chairman of the Medico-Legal Committee, personal damage suits against the railway corporations in Jefferson County alone have decreased more

than 50 per cent in the past year. Of course, the profession will appreciate the fact that this salutary decrease in personal damage suits has been materially helped by the clear-cut action of Judge Field of the Jefferson County Circuit Court and the Jefferson County Bar Association. It is of the utmost importance, therefore, that the individual members of our profession understand the increased danger of malpractice suits and that they govern themselves accordingly. In every instance, now as always, a patient should be told the exact truth in regard to possible dangers and complications from the conditions from which they suffer. Before the establishment of the Medico-Legal Committee it had been commonly supposed that most malpractice suits were brought against surgeons and other specialists. On the contrary it has been found during the five years of its existence that more than 95 per cent. of the suits have been brought against general practitioners in the country or small towns. The Council cordially commends the activity, wisdom, economy and general effectiveness which has been shown by the Medico-Legal Committee in the conduct of the important matters coming under its jurisdiction.

It will be noted with considerable pride that for the eighth consecutive year the *KENTUCKY MEDICAL JOURNAL* has been conducted without expense to the Association. The income of the *JOURNAL* for the current year is \$5812.61, while the entire expense of its publication and issue has been \$5659.65. When it is remembered that there is still due it from the Jefferson County Medical Society \$858.38, it will be understood that the fiscal affairs of the *JOURNAL* are in a healthy condition. We think every doctor in Kentucky realizes the value of the *JOURNAL* to our membership and we feel that we have demonstrated that a medical journal may be conducted honestly and at the same time profitably. We have tried to keep constantly before our membership, and the income of the *JOURNAL* indicates that in this we have been most successful, that this remarkable showing cannot be continued without an even more active support of our advertisers in the future by the profession of the State. We are still so confident, from careful investigation, that there is not a single firm among our advertisers which is not worthy of your patronage that the Council stands ready to make good any money lost, occasioned by a mis-statement from any of our advertisers. During the past year, by an accident, we have been called on to make good in one instance and have cheerfully done so at an expense of about \$30.00. So far as we know no other medical or other publication has ever made this practical guarantee of its

advertisements. We accept no dishonest advertisements for our JOURNAL and, after five years' experience, we feel confident that our methods have been perfected to the point where we will not be deceived, and we are willing to relieve our members of all risk in dealing with our advertisers for their advertised products.

If all of our membership will adopt a plan already in force in many societies of not only preferring those manufacturers and sanitariums which make their announcements through our own JOURNAL, but of calling the attention of all those who seek the patronage of the profession to that fact, we will have no difficulty in continuing to furnish our members with a satisfactory organ.

If we could receive help from two or three active members in each county, we could in a few years have sufficient reserve funds to undertake the protection of aged physicians, the establishment of an Old Doctors' Home, and such other things as have been the dreams of our profession.

The report of our Business Manager shows that 31 per cent. of the total membership of the Association have contributed to the columns of the JOURNAL through original or special articles, scientific editorials, the proceedings of our respective county societies or in some way. This condition is without parallel in any other state and shows that our JOURNAL is really representative of our two thousand members who not only own, but actually edit it. Since 1909, no article or other communication on any subject from one of our own members has been refused publication. During the coming year, our expense will naturally and necessarily increase if we continue this policy. We will appreciate such explicit directions as to the future conduct of the JOURNAL as your honorable body shall see fit to give.

At the meeting of the Council in Louisville during the 1912 session, the contract for printing the JOURNAL was let to the Times-Journal Publishing Company, Incorporated, Bowling Green, for two years, on the following contract:

This contract made and entered into by the Kentucky State Medical Association, incorporated, party of the first part, and the Times-Journal Publishing Company, incorporated, party of the second part, witnesseth:

That the party of the second part hereby agrees to publish for party of the first part the KENTUCKY MEDICAL JOURNAL on the paper of the quality furnished, the body of the JOURNAL to be printed in 10 point DeVienne type, the discussions and similar matter to be in 8 point DeVienne type, not more than one-third of each issue to be advertising matter, set by hand, each Jefferson County issue to

consist of 48 pages, 2,500 copies in consideration of the sum of \$160.00 per month; and each regular issue to consist of sixty-four pages, 2,500 copies, in consideration of the sum of \$200.00 per month, or eighty pages, 2,500 copies, in consideration of the sum of \$250.00, or of ninety-six pages, 2,500 copies, in consideration of \$300.00 per month. It is further agreed that the party of the second part agrees that the JOURNAL shall be mailed to the members before midnight on the 26th day of the month preceding issue, subject to a penalty of ten dollars (\$10) for each twenty-four hours, or fraction thereof delay.

It is further agreed that one-third of the copy of the Jefferson County number shall be in the hands of the printer on the 26th day of the month preceding issue, one third on the 1st day of the month of issue, and the remaining one-third on the 5th day of the month of issue; the advertising forms close on the 1st day of the month of issue.

It is further agreed that one-third of the copy for the regular number shall be in the hands of the printer on the 5th day of the month before issue, one-third on the 10th and one-third on the 16th day of the month before issue.

It is further agreed that the copy shall be correct, and the party of the second part agrees to pay twenty-five (25) cents for each typographical error not contained in the copy, galley proofs and page proofs are to be submitted to the editor, and it is agreed that it shall be read and returned within twenty-four hours after its submission.

It is further agreed that the second party shall furnish envelopes, the return card to be printed on same at the rate of \$1.00 per thousand, which shall be addressed by the first party, and the JOURNAL shall be put in envelopes and mailed by the second party.

It is further agreed that this contract is to be continued for two years, beginning this, December 1st, 1912.

Witness our hands and seals this day and date above named.

KENTUCKY STATE MEDICAL ASSOCIATION (Inc.)

By E. RAU, Chairman Council.

TIMES-JOURNAL PUBLISHING COMPANY, (Inc.)

By W. J. DENHARDT, Manager.

Again this year the copy for the Jefferson County Number has been sent in late almost every month. We suggest that a penalty be added for each day's delay. In a negative way, these delays have cost the Association between \$400.00 and \$500.00 during the past year and this leak should be avoided.

The contract with the Jefferson County Medical Society is as follows:

This contract made and entered into this

first day of April, 1909, between the Jefferson County Medical Society, party of the first part, and the KENTUCKY STATE MEDICAL ASSOCIATION, incorporated, party of the second part, Witnesseth:

That in consideration of the securing advertising contracts in Jefferson County, Kentucky, by the party of the first part for the *JOURNAL published* by the party of the second part, which shall provide for it a net income from said advertisements of \$2,400 per annum, the party of the second part agrees to publish on or about the fifteenth day of each month an edition of the said *JOURNAL* which shall be known as the *JEFFERSON COUNTY* number, each issue to consist of forty-eight pages of reading matter and advertisements to be published and distributed under the following conditions, to-wit:

1. The Jefferson County Number of the *KENTUCKY MEDICAL JOURNAL* shall be published of the same style, size of pages, and shall be mailed to the same mailing list and shall be a part of the regular issue of the *KENTUCKY MEDICAL JOURNAL*.

2. Its editor and business manager shall be the same as for the *KENTUCKY MEDICAL JOURNAL*, but assistant editors and associate editors shall be nominated for it by the Jefferson County Medical Society from its membership, to the Council of the State Association.

3. The editorials for it shall be written by its own associate editors and the scientific editorials, by its own assistant editors, provided that editorial matter in regard to the public policy of the State Association shall be subject to the approval of the Council, as provided by the constitution.

4. Essays and discussions will be published in the order in which they are received from the secretary of the Jefferson County Medical Society.

5. The assistant and associate editors herein provided shall be assigned by the secretary of the Jefferson County Society to editorial work for the various issues at least three months in advance, and in case any such editor shall fail to send in his copy to the editor of the *JOURNAL* two successive times, the editor shall certify the fact to the Jefferson County Society, and another member shall be nominated to fill the vacancy thereby occasioned.

6. Advertisements of medical preparations shall be limited to U. S. P. and N. F. preparations, and to those approved by the Council on Pharmacy and Chemistry of the American Medical Association; of food preparations, to those which comply with the United States and Kentucky Pure Food and Drug Laws; and of sanitariums and business houses to

those approved by the Executive Committee of the Jefferson County Medical Society; all advertising being subject to the approval of the Council.

9. The business manager of the *JOURNAL* shall try as far as possible to secure advertisements for the Jefferson County Number, and the net income from such advertisements shall be credited in the consideration herein.

10. The Jefferson County Society may secure advertisements outside of Jefferson County, with the consent of the editor, the net proceeds to be credited two-thirds to the Jefferson County issue and one-third to the ordinary issue. The consent of the editor is required only to prevent competition between the two issues, and he shall in every way assist the Jefferson County Society in securing advertisements when they have a reasonable prospect of securing them.

11. Subscriptions to the *KENTUCKY MEDICAL JOURNAL* shall be at the rate of \$2.00 a year, and two-fifths of the income from subscriptions secured by the Jefferson County Society shall be credited on the consideration herein, provided that such subscribers are not eligible to membership in the Kentucky State Medical Association, in which latter case, the whole subscription shall go to the general fund of the Association.

12. In case the total net income of the Jefferson County Number shall exceed \$2,400 per annum, sixty-six and two-thirds per cent. of the excess shall be paid to the treasurer of the Jefferson County Society, and thirty-three and one-third per cent. to the Kentucky State Medical Association.

13. The consideration herein is based on a forty-eight page issue, with a circulation not to exceed 3,000. For each additional 500 copies required the consideration will be increased \$25, and for each additional sixteen pages of any issue of 3,000 or less, it will be increased \$50.

14. While it is agreed that the Jefferson County Number is to be representative of and under control of the Jefferson County Society in so far as it does not conflict with the Constitution of the State Association, it is understood that the editor and the secretary of the Jefferson County Society may arrange for such interchange of articles between the two issues as will promote harmonious relations and united action between the parties hereto at all times.

We have had the report of the Secretary and Treasurer audited by Mr. Geo. R. Mayo, of Bowling Green, and submit his report herewith.

It will be noted again this year, as for the past seven years, that each item of expense

and income are set forth so plainly, that not only every county society and its Delegates, but every member of the Association, may know the details of our business affairs, which are of interest and importance to every one of us. The Council and your officers will continue to work with the most careful attention to its every detail. It is to be remembered at all times that we are entirely under the control and direction of the members of the county societies through their duly elected delegates. If anything is being done wrong, if there is any way of improving it, if newer methods or better management will more nearly accomplish the purpose of this Association, we beg that it be submitted to the House of Delegates for its action at this session so that in the future conduct of the affairs of this Association we may best promote the purpose set forth in its Constitution and charter "to federate and bring into one compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of diseases, and in promoting and adding comfort to life."

Respectfully submitted,

ERNEST RAU, Chairman.

Hyperthyroidism.—Dr. C. H. Mayo, Rochester, Minn., said that exophthalmic goiter is essentially a disease of a chronic character, presenting exacerbations and ameliorations of symptoms extending over a period of months or several years. The operative interference in cases resistant to treatment should be confined to injections of boiling water into the gland after Porter's plan to hasten improvement. In most of the severe cases a ligation is made first of the left upper pole only. Should the reaction following this be severe, the ligation of the right upper pole is indicated a week later, and thyroidectomy reserved until four months have elapsed, by which time these patients have made an average gain of 22 pounds, with great general improvement. However, if the reaction following the left ligation is not unduly severe, a partial thyroidectomy may be made at the second operation, the week following.

AUDITOR'S REPORT.

Bowling Green, Ky., Aug. 28, 1914.

To the Council, Kentucky State Medical Association:

GENTLEMEN:

At the request of Dr. Ernest Rau, I have audited the books of your Association, both of Dr. W. B. McClure, Treasurer, and Dr. A. T. McCormack, Secretary, from September 1, 1913 to August 31, 1914.

I find as follows:

ASSETS	
Cash balance in Second National Bank, Lexington, Kentucky, to the credit of W. B. McClure, Treasurer, as per pass book submitted. This amount includes a time deposit of \$1500.00 and interest on same to April 1, 1914—	\$3725.38
\$22.50	
August collections forwarded to the Treasurer by the Accountant in charge of auditing the books:	
Society \$ 45.00	
JOURNAL 244.33	289.33
Interest on investment to February 23, 1914, collected and forwarded to Treasurer by Accountant	18.05
	\$4032.76
Less outstanding vouchers:	
Voucher No. 522, L. H. South \$ 40.00	
Voucher No. 523, Mary F. Shea 25.00	
Voucher No. 524, Clyde W. Howell 75.00	
Voucher No. 525, Capital Engraving Company 8.96	
Voucher No. 527, J. A. Miller 45.20	
Voucher No. 529, C. M. Coombs 12.75	
Voucher No. 530, A. T. McCormack 105.53	
Voucher No. 531, L. H. South 40.00	
Voucher No. 532, Mary F. Shea 25.00	
Voucher No. 533, Clyde W. Howell 75.00	
Voucher No. 534, Times-Journal Publishing Company 94.30	546.74
Net Cash Balance	\$3486.02
Interest due August 23 and uncollected	30.00
Investment Bond	1000.00
Office furniture, stationery, and supplies, as per Exhibit "D"	1119.78
	\$5635.80

Receipts. The amounts found on the Secretary's Cash Book have been checked against the Ledger, the totals agreeing with the Treasurer's books.

Through an error at the Bank, the interest on the Investment Bond, due last February, had not been paid. Upon investigation it was found to have been paid to the original owner of the Bond. I have collected it (\$18.05) and forwarded to the Treasurer. Interest on this Bond is again due August 23rd and will be paid upon presentation of coupon.

Disbursements: I find overcharges for printing the JOURNAL amounting to \$55.00. This amount has been deducted from the August account of the Times-Journal Publishing Company. (See Voucher Check No. 534).

I failed to find any error in the bookkeeping; the system is good, the bookkeeper most competent and the accounts in perfect balance.

I cannot speak too highly of your method of publishing a detailed statement such as Ex-

hibit "B". This makes every reader of the JOURNAL an auditor of its accounts.

The exhibits herewith submitted furnish a full statement in aggregate and detail of the entire business of the year.

Respectfully,
 GEO. R. MAYO,
 Public Accountant.

EXHIBIT "A".

RECEIPTS.

Dues from county societies and subscriptions to JOURNAL	\$5976.25	
Income of JOURNAL, advertising, etc.	5812.61	
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Receipts for the year	\$11788.86	
Balance on hand September 1, 1913.	\$5283.72	
Interest on time deposit to April 1, 1914	22.50	
Interest on Investment Bond to February 23, 1914.	18.05	5324.27
<hr/>		
Total Accountability.	\$17113.13	

DISBURSEMENTS

State Medical Association:		
Secretary's Salary	\$1300.00	
Secretary's Stenographer	900.00	
Secretary's Sundries	100.15	
Secretary's Printing other than JOURNAL	50.20	
Treasurer's Office Expense and Bond.	61.20	
Officers, Council and Committee Expenses	256.47	
Costs and Expenses—Medico-Legal Committee	365.30	
Medico-Legal Committee, Attorney's fees	2575.00	
Association sundries	43.00	
Bowling Green meeting expenses	866.92	
Newport Meeting	20.90	6539.49
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JOURNAL Expense:		
Stamps and envelopes	\$ 275.41	
Business Manager	580.00	
Commission on advertisements	317.62	
Printing JOURNAL	4080.18	
Freight and drayage	1.10	
Postage	165.50	
Sundries	239.54	5659.65
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Heala Supply Agency	148.80	
Microscopist	279.17	
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Total Disbursements.	\$12627.11	
Purchase of 6 per cent. Investment Bond	1000.00	
Cash on hand August 31, 1914	3486.02	
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TOTAL	\$12113.13	

EXHIBIT "B"

Detailed Statement of Disbursements of W. B. McClure, Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by Dr. W. O. Roberts, President, A. T. McCormack, Secretary, and him-self, from September 1, 1913, to September 1, 1914.

1913.		
September 1.	VOUCHER CHECK No. 389	\$ 46.90
	DR. D. O. HANCOCK, Henderson. To expenses while President year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 390	\$ 27.80
	DR. I. A. SHIRLEY, Winchester. To expenses as Councilor for year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 391	\$ 15.60
	DR. D. M. GRIFFITH, Owensboro. To expenses Henderson and Morganfield 3.20 To expenses Kentucky Educational Ass'n Louisville 12.40 Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 392	\$ 10.75
	DR. ERNEST RAU, Bowling Green. To meeting Council in Louisville November, 1912. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 393	\$ 26.00
	DR. W. B. McCLURE, Treasurer, Lexington. To expenses to Bowling Green meeting, expressage, telephone, etc. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 394	\$ 7.75
	DR. R. C. McCHORD, Lebanon. To expenses Councilor for year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 395	\$ 12.21
	DR. CYRUS GRAHAM, Henderson. To expenses Councilor for year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 396	\$ 17.75
	DR. J. S. LOCK, Barbourville. To expenses Councilor for year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 397	\$ 9.55
	DR. J. KINCAID, Catlettsburg. To expenses Councilor for year 1913. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 398	\$ 11.30
	DR. JOHN J. MOREN, Louisville. To stamps, Chairman of Medico-Legal Committee 4.30 To Long distance messages Medico-Legal Committee 7.00 Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 399	\$100.00
	DR. J. W. FORD, Treasurer First Christian Church, Bowling Green. To use of church four days for Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 400	\$ 5.00
	MR. WILL BROWN MARTIN, Bowling Green. To services as page during Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.	
September 1.	VOUCHER CHECK No. 401	\$ 5.00

	MR. S. J. MARTIN, Bowling Green.		
	To services as judge during Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 402		\$ 10.00
	MR. R. H. CRENSHAW, Bowling Green.		
	To services as watchman two nights Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 403		\$ 25.00
	MISS MAYME SULLIVAN, Bowling Green.		
	To honorarium Bowling Green meeting. Registration Department. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 404		\$ 5.00
	CLAVIS MAHONÉ, (Colored), Bowling Green.		
	To services as janitor during Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 405		\$ 3.00
	HOYT NICHOLS, (Colored), Bowling Green.		
	To services as janitor during Bowling Green meeting. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 406		\$ 40.00
	DR. W. A. POOLE, Henderson.		
	To expense attending joint meeting of the Committee on Medical Education and Medical Legislation, at Chicago, February 22 and 23, 1913. Time spent in travel and services four days. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 407		\$ 45.00
	AMERICAN MEDICAL ASSOCIATION, Chicago.		
	To 2750 President's portraits (Dr. W. O. Roberts). Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 408		\$ 25.00
	MR. B. P. EUBANK, Bowling Green.		
	To auditing books and accounts of Secretary, Dr. A. T. McCormack, and Treasurer, Dr. W. B. McClure, from September 1, 1912, to September 1, 1913 and reporting same. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 409		\$ 10.00
	DR. J. T. WINDELL, Louisville.		
	To making pen and ink drawings for Dr. Windell's State meeting paper. Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 410		\$ 18.85
	FARNSWORTH ELECTRIC COMPANY, Bowling Green.		
	10 10 feet loop cord	\$.30	
	To waste cutting, etc.	1.50	
	To 4 fuses	.35	
	To socket	.25	
	To 10 knots	.10	
	To 2 atch plugs	.50	
	To 100 feet No. 14 wire	1.00	
	To 2 current taps	1.00	
	To 4 60-watt bulbs	2.40	
	To 4 100-watt bulbs	3.20	
	To 20 feet extension	1.25	
	To labor	7.00	
	Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 411		\$ 51.03
	J. B. SUMPTER & BRO., Bowling Green.		
	To decorating church contract	\$ 25.00	
	To work covering windows	6.00	
	To 1 bolt domestic, 60 yards	4.80	
	To 1 bolt domestic, 59 yards	4.72	
	To 18 yards sateen	3.78	
	To 10 yards sheeting	2.75	
	To 31 yards percale	3.98	
	Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 412		\$168.80
	S. W. BASSETT & COMPANY, Providence, Rhode Island.		
	To 300 rolled plate K. S. M. A. buttons at .26 each	\$ 78.00	
	To 496 rolled plate "Bowling Green" bars at .19 each	94.24	
		\$172.24	
	Less 2 per cent. discount for cash	3.44	
September 1.	VOUCHER CHECK No. 413		\$509.95
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 200 reprints Bowling Green session	\$ 1.00	
	To 500 enrollment cards, Bowling Green session	2.50	
	To 2000 blank cards, Bowling Green session	2.00	
	To 1000 16-page programs Bowling Green session	21.00	
	To 3000 24-lb linen letter heads	10.00	
	To 3500 80-page August 15th Journals, regular issue)	305.00	
	By 61 errors in same		15.25
	To 3500 envelopes	3.50	
	To 10 changes	2.00	
	To difference setting tabular matter 8 pt and 6 pt	21.20	
	To 3 cuts Sprague's and Willmoth's	4.50	
	To express on same	.30	
	To 2300 48-page September 1st issue (Jefferson County)	150.00	
	By 11 errors in same		3.50
	To 2300 envelopes	2.30	
	To 5 changes	1.00	
	To putting in inserts August 15th JOURNAL	2.40	
	Approved by Council and ordered paid by House of Delegates.		
September 1.	VOUCHER CHECK No. 414		\$ 92.48
	DR. A. T. McCORMACK, Bowling Green.		
	To expenses Louisville meeting 1912 as follows:		
	To Hotel and meals	\$ 30.00	
	To Janitor at church	10.00	
	To car fare	.95	
	To carriages	1.50	
	To incidentals	4.50	
	To express	.66	
	To express on membership cards	.45	

	To expenses Bowling Green meeting as follows:		
	To sateen covering windows	7.59	
	To express on Dr. Lewis slides	1.00	
	To postals State Meeting	32.00	
	To express	2.35	
	To telegrams	.48	
	To janitor Bowling Green meeting	1.00	
	Approved by Council and ordered paid by House of Delegates.		
October 1.	VOUCHER CHECK No. 415		\$262.94
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on August 1st JOURNAL	\$ 8.25	
	To postage on August 15 JOURNAL	15.20	
	To postage on September 1st JOURNAL	5.53	
	To 2000 No. 8 stamped envelopes	44.00	
	To 4000 No. 5 stamped envelopes	84.96	
	To September salary	125.00	
	Salary ordered by House of Delegates at Bowling Green session.		
October 1.	VOUCHER CHECK No. 416		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To September salary. Salary ordered by House of Delegates at Bowling Green session.		
October 1.	VOUCHER CHECK No. 417		\$ 25.00
	DR. V. E. SIMPSON, Louisville.		
	To September salary.		
October 1.	VOUCHER CHECK No. 418		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To September salary as microscopist. Salary ordered by House of Delegates at Bowling Green session.		
October 1.	VOUCHER CHECK No. 419		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To September salary as stenographer. Salary ordered by House of Delegates at Bowling Green session.		
October 1.	VOUCHER CHECK No. 420		\$ 37.00
	COURIER-JOURNAL JOB PRINTING CO., Louisville.		
	To 5600 membership cards litho. 2 cols, 2 kinds "1914-1915."		
October 1.	VOUCHER CHECK No. 421		\$ 6.38
	DR. OLIN WEST, Nashville, Tennessee.		
	To expenses from Nashville to Bowling Green and return. Delivered annual oration before State Meeting.		
October 1.	VOUCHER CHECK No. 422		\$157.50
	MESSRS. MONTGOMERY & MONTGOMERY, attorneys, Tazewell, Tenn.		
	To attorneys fee in re Harrison case	\$150.00	
	To stenographer's fee	5.50	
	To witness fee Mrs. Burke	2.00	
October 1.	VOUCHER CHECK No. 423		\$485.84
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 500 Letter heads and 500 Envelopes for Vice President	\$ 4.00	
	To 300 Letter Heads and 300 Envelopes for Vice President	3.25	
	To 250 Letter heads and 300 Envelopes for Vice President	3.00	
	To 300 Letter Heads and 300 Envelopes for President-Elect	3.25	
	To 500 Letter heads and 500 Envelopes for President	4.00	
	To 500 Letter heads and 500 Envelopes for Medico-Legal Committee	4.00	
	To 4000 Letter heads for Secretary	12.00	
	To 500 Letter heads and 500 Envelopes for Councilor Fifth District	4.00	
	To 500 Letter heads and 500 Envelopes for Councilor Eighth District	4.00	
	To 500 Letter heads and 500 Envelopes for Councilor Second District	4.00	
	To parcels postage on above	1.66	
	To 2400 48-page September 15th JOURNALS	155.00	
	By 8 errors in same		2.00
	To 8 changes in same	1.60	
	To 2400 envelopes	2.40	
	To 2600 100-page October 1st JOURNALS	317.50	
	By 1 day's delay		10.00
	By 47 errors in same		11.75
	By 166 JOURNALS not returned		20.27
	To 18 changes	3.60	
	To 2600 envelopes	2.60	
October 1.	VOUCHER CHECK No. 424		\$ 48.56
	MESSRS. W. J. & J. G. DENHARDT, Bowling Green.		
	To 15 per cent. commission on \$105.02 Regular JOURNAL ads	\$ 15.75	
	To 15 per cent. commission on \$138.49 Jefferson County ads	20.77	
	To 25 per cent. commission on \$48.17 Jefferson County ads	12.04	
October 1.	VOUCHER CHECK No. 427		\$ 28.00
	MISS PAULINE ECKENROTH, Louisville.		
	To depositions of Drs. J. G. Sherrill, W. C. Dugan, V. E. Simpson, G. A. Hendon and Irvin Abell taken in behalf of defendant in an action pending in Perry Circuit Court, Lucile Kinner vs. Dr. Taylor Hurst—71 pages.		
October 1.	VOUCHER CHECK No. 428		\$ 15.00
	REMLINGTON TYPEWRITER COMPANY, Louisville.		
	To first payment on note for \$45.00 for new machine.		
November 1.	VOUCHER CHECK No. 429		\$125.00
	MESSRS. WOOTEN & MORGAN, attorneys, Hazard.		
	To attorneys' fee in case of Kenner vs. Hurst.		
November 1.	VOUCHER CHECK No. 430		\$1000.00
	POTTER-MATLOCK TRUST COMPANY, Bowling Green.		
	To 6 per cent. First Mortgage E. H. Adams bond.		
November 1.	VOUCHER CHECK No. 431		\$148.19
	DR. A. T. McCORMACK, Bowling Green.		
	To postage September 15th JOURNAL	\$ 7.65	
	To postage October 1st JOURNAL	9.77	
	To postage October 15th JOURNAL	5.77	
	To October salary	125.00	
November 1.	VOUCHER CHECK No. 432		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To October salary. Business Manager Regular JOURNAL.		
November 1.	VOUCHER CHECK No. 433		\$ 25.00
	DR. V. E. SIMPSON, Louisville.		
	To October salary. Business Manager Jefferson County issue.		
November 1.	VOUCHER CHECK No. 434		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To October salary as microscopist.		
November 1.	VOUCHER CHECK No. 435		\$ 75.00

	CLYDE W. HOWELL, Bowling Green.		
	To October salary, Stenographer.		
November 1.	VOUCHER CHECK No. 436		\$138.05
	MESSRS. W. J. & J. G. DENIHARDT, Bowling Green.		
	To 15 per cent. commission on \$175.00	Abbott Alkaloidal	\$ 26.25
	To 25 per cent. commission on 35.00	S. D. Acuff, Reg.	8.75
	To 15 per cent. commission on 35.00	Bausch & Lomb	5.25
	To 15 per cent. commission on 25.00	R. Broughton	3.75
	To 15 per cent. commission on 50.00	City View Sanitar.	7.50
	To 15 per cent. commission on 48.00	Elmwood Sanitar.	7.20
	To 15 per cent. commission on 60.00	Falls City Vulcan, Co.	9.00
	To 25 per cent. commission on 125.00	Chas. H. Phillips	33.85
	To 15 per cent. commission on 100.00	Pitman-Myers Co.	15.00
	To 25 per cent. commission on 65.00	Star Rancia Sanitarium	16.25
	To 15 per cent. commission on 35.00	Walker's Sanitarium	5.25
November 1.	VOUCHER CHECK No. 437		\$175.00
	MESSRS. GOAD & OLIVER, Scottsville.		
	To attorneys' fee in case of Woods vs. Harris.		
November 1.	VOUCHER CHECK No. 438		\$200.00
	MESSRS. HINES & NORMAN, Louisville.		
	To retainer for year 1913.		
November 1.	VOUCHER CHECK No. 439		\$254.58
	WILLIAM WHITFORD, Chicago.		
	To Reporting four and one-half days		\$ 45.00
	To Transcribing minutes General Meeting 63 folio		15.75
	To Transcribing minutes House of Delegates 366 folio		91.50
	To Transcribing Discussions 250 folio		62.50
	To Transcribing Discussion County Secretaries 94 folio		15.50
	To Railroad expenses		22.58
	To Express charges		1.75
November 1.	VOUCHER CHECK No. 440		\$ 15.00
	REMINGTON TYPEWRITER COMPANY, Louisville.		
	To second payment on note for \$45 on new machine.		
November 1.	VOUCHER CHECK No. 441		\$ 45.00
	TINSLEY-MAYER ENGRAVING COMPANY, Louisville.		
	To 20 misc. Halftone illustrations for Dr. Louis Frank's paper.		
November 1.	VOUCHER CHECK No. 442		\$.70
	WARREN COUNTY HARDWARE COMPANY, Bowling Green.		
	To tacks		.05
	To galv. tube		.70
	To buckets		.50
	To dippers		.10
			1.35
	By goods returned		.65
November 1.	VOUCHER CHECK No. 443		\$379.02
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To error in making deduction in October for JOURNALS short, which were afterwards found		\$ 20.27
	To 2450 Jefferson County JOURNALS 18-pages		157.50
	By 41 errors in same		10.25
	To 2450 envelopes		2.45
	To 2500 November 1st JOURNALS 64-page		210.00
	By 27 errors in same		6.75
	To 2500 envelopes		2.50
	To 2 cuts for Barbecue		3.00
	To phone message to Dr. Simpson		.30
November 1.	VOUCHER CHECK No. 444		\$ 45.00
	DR. EDWARD WILSON, Pincville.		
	To expenses and services in case of John Smith, admr. vs. Dr. Wilson, and in case of John Smith vs. Dr. Wilson in Bell County Circuit Court (2 cases). This includes the services of Mr. Dawson also.		
December 1.	VOUCHER CHECK No. 445		\$137.78
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on November 1st JOURNAL		\$ 7.07
	To postage on November 15th JOURNAL		5.71
	To November salary		125.00
December 2.	VOUCHER CHECK No. 446		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To November salary Business Manager Regular JOURNAL.		
December 1.	VOUCHER CHECK No. 447		\$ 25.00
	DR. V. E. SIMPSON, Louisville.		
	To November salary Business Manager Jefferson County Number.		
December 1.	VOUCHER CHECK No. 448		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To November salary as microscopist.		
December 1.	VOUCHER CHECK No. 449		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To November salary, Stenographer.		
December 1.	VOUCHER CHECK No. 450		\$ 15.00
	REMINGTON TYPEWRITER COMPANY, Louisville.		
	To third and last payment on \$45.00 note for machine.		
December 1.	VOUCHER CHECK No. 451		\$ 10.00
	MISS PAULINE ECKENROTH, Louisville.		
	To deposition of Mrs. Marie Davis in case of Davis vs. Cheatham—25 pages.		
December 1.	VOUCHER CHECK No. 452		\$168.35
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 2500 48-page Jefferson County JOURNALS		\$160.00
	By 17 type errors in same		4.25
	To 2500 envelopes		2.50
	To 18 changes		2.60
	To 2500 64-page December 1st JOURNALS		210.00
	By 1 day's delay		10.00
	By 11 type errors		2.75
	To reprints for Medico-Legal Committee		2.50
	To 2500 envelopes		2.50
	To making changes in make-up		4.50
December 1.	VOUCHER CHECK No. 453		\$166.80

	MYERS MANUFACTURING COMPANY, Camden, New Jersey.		
	To 150 gross containers for Dr. Sydney D. Porter	\$ 68.40	
	To 150 gross containers for Dr. L. H. South	68.40	
1914.			
January 1.	VOUCHER CHECK No. 454		\$ 12.00
	MYERS MANUFACTURING COMPANY, Camden, New Jersey.		
	To containers sent to Dr. J. L. Ward, Columbia, S. C. on May 20, 1913.		
January 1.	VOUCHER CHECK No. 455		\$ 2.20
	W. L. McNEAL, Sheriff Warren County, Bowling Green.		
	To State and County taxes for 1913.		
January 1.	VOUCHER CHECK No. 456		\$136.70
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on December 1st JOURNAL	\$ 7.22	
	To postage on December 15th JOURNAL	4.48	
	To December salary	125.00	
January 1.	VOUCHER CHECK No. 457		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To December salary Business Manager Regular JOURNAL.		
January 1.	VOUCHER CHECK No. 458		\$ 25.00
	DR. V. E. SIMPSON, Louisville.		
	To December salary Business Manager Jefferson County issue.		
January 1.	VOUCHER CHECK No. 459		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To December salary as microscopist.		
January 1.	VOUCHER CHECK No. 460		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To December salary. Stenographer.		
January 1.	VOUCHER CHECK No. 461		\$ 26.25
	DR. PEYTON LIGON, Henderson.		
	To Clerk's cost due by Defendant	\$ 8.50	
	To fee for making Transcript	17.75	
January 1.	VOUCHER CHECK No. 462		\$ 3.00
	L. GREER & SON, Bowling Green.		
	To rent of four tables at Annual Meeting in Bowling Green.		
January 1.	VOUCHER CHECK No. 463		\$ 19.00
	DR. W. B. McCLURE, Lexington.		
	To 1000 sheets	\$ 7.00	
	To 250 sheets	2.50	
	To 1000 envelopes	\$ 7.00	
	To 250 envelopes	2.50	
January 1.	VOUCHER CHECK No. 464		\$117.20
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 1000 Annual blanks, both sides printed	\$ 5.00	
	To 1000 Annual blanks list of physicians	5.00	
	To 2400 48-page December 15th JOURNALS	155.00	
	By 27 errors in same		6.75
	To 22 changes	4.40	
	To 2400 envelopes	2.40	
	To 2500 80-page January 1st JOURNALS	250.00	
	To 55 errors in same		13.75
	To 2500 envelopes	2.50	
	To 23 changes	4.60	
	To difference in index set in 6-point type 22000.	8.80	
January 1.	VOUCHER CHECK No. 425		\$131.01
	MISS MAYME SULLIVAN, Bowling Green.		
	To 15 per cent. commission on \$ 54.20 Kenilworth Sanitarium	\$ 8.13	
	To 15 per cent. commission on 43.80 Waukesha Springs	6.57	
	To 15 per cent. commission on 96.74 Oxford Retreat	14.51	
	To 25 per cent. commission on 125.00 Sawyer Sanitarium	31.25	
	To 15 per cent. commission on 93.78 Sawyer Sanitarium	14.06	
	To 15 per cent. commission on 78.75 Oconomowoc Health	11.81	
	To 25 per cent. commission on 69.96 Ottawa Tent Colony	17.49	
	To 25 per cent. commission on 65.00 Sanitary Cup, etc.	16.25	
	To 25 per cent. commission on 43.75 Milwaukee Sanitarium	10.94	
February 2.	VOUCHER CHECK No. 465		\$113.41
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on January 1st JOURNAL	\$ 9.22	
	To postage on January 15th JOURNAL	4.22	
	To January salary	100.00	
February 2.	VOUCHER CHECK No. 466		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To January salary, Business Manager Regular JOURNAL.		
February 2.	VOUCHER CHECK No. 467		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To January salary. Microscopist.		
February 2.	VOUCHER CHECK No. 468		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To January salary. Stenographer.		
February 2.	VOUCHER CHECK No. 469		\$ 19.20
	DR. JOHN J. MOREN, Louisville.		
	To books. Medical Jurisprudence.		
February 2.	VOUCHER CHECK No. 470		150.00
	MESSRS. CLAY & CLAY, Attorneys, Henderson.		
	To attorneys' fee in case of Amos Allen vs. Dr. Ligon.		
February 2.	VOUCHER CHECK No. 471		\$374.61
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 2400 48-page January 15th JOURNALS	\$155.00	
	By 1 day's delay		4.25
	By 17 errors in same		10.00
	To 15 changes	3.00	
	To 2400 envelopes	2.40	
	To 2500 64-page February 1st JOURNALS	210.00	
	By one-half day's delay		5.00
	By 14 errors in JOURNAL		3.50
	To 2500 envelopes	2.50	
	To 8 changes	1.60	
	To 1000 bill heads	2.25	
	To half-tones and postage from June 28 to date	20.61	
		\$397.36	22.75
	Less		\$274.61
February 2.	VOUCHER CHECK No. 472		\$159.40

	DR. TAYLOR HURST, Hazard.		
	In case of Lucile Kinner vs. Taxation of cost. Dr. Hurst defendant.		
	To Clerk's cost	\$ 31.80	
	To two jury fees	8.00	
	To sheriff, 1 process .....	.60	
	To Sheriff, summoning 40 witnesses at .25	10.00	
	Defendant's witnesses	79.00	
	To Stenographer's fees	30.00	
March 1.	VOUCHER CHECK No. 473		\$ 2.50
	DR. THOS. P. ALLEN, Pembroke.		
	To 1913 dues returned at request of County Society.		
March 1.	VOUCHER CHECK No. 474		\$ 3.00
	DR. D. B. ROACH, Hopkinsville.		
	To 1913 dues returned at request of County Society.		
March 1.	VOUCHER CHECK No. 475		\$192.82
	DR. A. T. McCORMACK, Bowling Green.		
	To 2500 two-cent stamped plain envelopes	\$ 52.50	
	To 2519 postals	25.19	
	To postage on February 1st JOURNAL	7.69	
	To postage on February 15th JOURNAL	7.44	
	To salary for February	100.00	
March 1.	VOUCHER CHECK No. 476		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To February salary. Business Manager Regular JOURNAL.		
March 1.	VOUCHER CHECK No. 477		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To February salary. Microscopist.		
March 1.	VOUCHER CHECK No. 478		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To February salary. Stenographer.		
March 1.	VOUCHER CHECK No. 479		\$ 80.15
	MESSRS. HINES & NORMAN, Louisville.		
	To fee for services in Court of Appeals in case of Ligon vs. Allen	\$75.00	
	To traveling expenses E. W. Hines to Frankfort to argue case	5.15	
March 1.	VOUCHER CHECK No. 480		\$330.55
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 1000 linen heads Health Committee	\$ 4.00	
	To 3000 linen heads Public Policy Committee	10.00	
	To 2400 48-page Jefferson County, Feb. 15th issue	155.00	
	By 14 type errors in same		3.50
	To 12 changes	2.40	
	To 2400 envelopes	2.40	
	To 2500 48-page March 1st JOURNALS	160.00	
	By 9 errors in same		2.25
	To 2500 envelopes	2.50	
April 1.	VOUCHER CHECK No. 481		\$113.15
	DR. A. T. McCORMACK, Bowling Green.		
	To postage for March 1st JOURNAL	\$ 6.08	
	To postage for March 15th and April 1st issues	6.85	
	To express on cut .....	.22	
	To March salary	100.00	
April 1.	VOUCHER CHECK No. 482		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To March salary. Business Manager of JOURNAL		
April 1.	VOUCHER CHECK No. 483		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To March salary. Microscopist.		
April 1.	VOUCHER CHECK No. 484		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To March salary. Stenographer.		
April 1.	VOUCHER CHECK No. 485		\$ 1.60
	BEN TOPMILLER, Bowling Green.		
	To ice furnished at Annual meeting, September, 1913.		
April 1.	VOUCHER CHECK No. 486		\$250.00
	BERRY & GRASSHAM, Attorneys, Paducah.		
	For services rendered in case of Julia Malone vs. Drs. Mason, Evans and Keys in McCracken Circuit Court, wherein plaintiff sought to recover \$25,000 for malpractice and was awarded judgment for \$3500. Agreed fee.		
April 1.	VOUCHER CHECK No. 487		\$150.00
	BERRY & GRASSHAM, Attorneys, Paducah.		
	For services rendered in case of Robt. Littleton vs. Dr. W. H. Parsons in McCracken Circuit Court. Case dismissed by Plaintiff.		
April 1.	VOUCHER CHECK No. 488		\$150.00
	MESSRS. HELM & HELM, Louisville.		
	To services rendered in case of Ida Maher vs. Dr. Cuthbert Thompson as explained in letter to J. V. Norman, dated March 27, 1914.		
April 1.	VOUCHER CHECK No. 489		\$ 75.00
	MESSRS. HINES & NORMAN, Louisville.		
	To services in Jefferson Circuit Court in case of Carroll vs. Dr. J. P. Ferguson.		
April 1.—	VOUCHER CHECK No. 490		\$ 50.00
	MESSRS. HINES & NORMAN, Louisville.		
	To services in Jefferson Circuit Court in case of Primm vs. Scott.		
April 1.	VOUCHER CHECK No. 491		\$ 75.00
	HON. J. V. NORMAN, Louisville.		
	To services as General Counsel for the months of January, February and March, 1914.		
April 1.	VOUCHER CHECK No. 492		\$240.60
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 4000 linen letter heads	\$ 12.00	
	To 2000 80-page JOURNALS, (Mar. 15 and Apr. 1st)	230.00	
	By 41 errors in same		10.25
	To 2000 envelopes	2.00	
	To changes	4.40	
	To 6132 ems. killed	2.45	
May 1.	VOUCHER CHECK No. 493		\$110.12
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on April 15th and May 1st JOURNALS	\$ 10.12	
	To salary for April	100.00	
May 1.	VOUCHER CHECK No. 494		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To salary for April as Business Manager of JOURNALS		
May 1.	VOUCHER CHECK No. 495		\$ 4.17

	MARY FRANCIS SHEA, Bowling Green. To salary from April 24th to May 1st.			
May 1.	VOUCHER CHECK No. 496			\$ 75.00
	CLYDE W. HOWELL, Bowling Green. To salary for April. Stenographer.			
May 1.	VOUCHER CHECK No. 497			\$ 37.50
	DR. J. S. JOHNSON, Barlow. To error in sending in dues from Ballard County Medical Society.			
May 1.	VOUCHER CHECK No. 498			\$ 1.31
	CAPITOL ENGRAVING COMPANY, Nashville, Tennessee. To 1 half-tone and postage on same.			
May 1.	VOUCHER CHECK No. 499			\$100.00
	HON. C. I. DAWSON, Attorney, Pineville. To fee in trial of suit against Dr. Brummett.			
May 1.	VOUCHER CHECK No. 500			\$ 75.00
	HON. T. G. Anderson, Attorney, Middlesboro. To fee in case of David Gunter vs. Dr. Jacob Schultze.			
May 1.	VOUCHER CHECK No. 501			\$ 36.55
	DR. LESLIE BRAND, Maysville. To fee paid Miss Johnson for reporting case of Florence Barnett vs. Dr. Brand—4 days at \$5.00 per day		\$ 20.00	
	To Clerk's, Sheriff's and Jury fee in Barnett Brand case		16.55	
May 1.	VOUCHER CHECK No. 502			\$200.00
	WORTHINGTON, COCHRAN & BROWNING, attorneys, Maysville. To fee in Barnett vs. Dr. Leslie Brand case.			
May 1.	VOUCHER CHECK No. 503			\$ 25.00
	HON. J. N. SHARP, Attorney, Williamsburg. To fee in case of Creekmore vs. Dr. Cundiff.			
May 1.	VOUCHER CHECK No. 504			\$256.71
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green. To 500 letter heads for Vice-President		\$ 2.50	
	To express		.25	
	To 2000 88-page May 1st JOURNALS		255.00	
	By 25 errors in same			6.25
	To 2000 envelopes		2.00	
	To 16 changes		3.20	
June 1.	VOUCHER CHECK No. 505			\$ 84.96
	DR. A. T. McCORMACK, Bowling Green. To 4000 2-cent stamped envelopes.			
June 1.	VOUCHER CHECK No. 506			\$107.22
	DR. A. T. McCORMACK, Bowling Green. To postage on sample copies of JOURNAL		\$ 7.22	
	To salary for May		100.00	
June 1.	VOUCHER CHECK No. 507			\$ 40.00
	DR. L. H. SOUTH, Bowling Green. To salary for May. Business Manager Regular JOURNAL.			
June 1.	VOUCHER CHECK No. 508			\$ 25.00
	MARY FRANCIS SHEA, Bowling Green. To salary for May. Microscopist.			
June 1.	VOUCHER CHECK No. 509			\$ 75.00
	CLYDE W. HOWELL, Bowling Green. To salary for May. Stenographer.			
June 1.	VOUCHER CHECK No. 510			\$125.00
	MESSRS. WOOTEN & MORGAN, Hazard. To fee in case of Lafayette Engle vs. Drs. Hurst and Gross in Perry County Court.			
June 1.	VOUCHER CHECK No. 511			\$ 75.00
	HON. T. G. ANDERSON, Middleboro. To fee in case of Brassfield vs. Dr. Jacob Schultz in Bell County Court.			
June 1.	VOUCHER CHECK No. 512			\$ 50.00
	HON. J. R. ALLEN, Lexington. To fee in case of Louisa Walton vs. Dr. Alexander C. Brown, Lexington.			
June 1.	VOUCHER CHECK No. 513			\$152.40
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green. To 2300 copies May 15th JOURNAL, 48-page		\$150.00	
	By 14 errors in same			3.50
	To 2300 envelopes		2.30	
	To 18 changes		3.60	
July 1.	VOUCHER CHECK No. 514			\$112.48
	DR. A. T. McCORMACK, Bowling Green. To postage on May 15th and June 1st JOURNALS		\$ 12.48	
	To June salary		100.00	
July 1.	VOUCHER CHECK No. 515			\$ 40.00
	DR. L. H. SOUTH, Bowling Green. To salary for June. Business Manager Regular JOURNAL.			
July 1.	VOUCHER CHECK No. 516			\$ 25.00
	MARY FRANCIS SHEA, Bowling Green. To salary for June. Microscopist.			
July 1.	VOUCHER CHECK No. 517			\$ 75.00
	CLYDE W. HOWELL, Bowling Green. To salary for June. Stenographer.			
July 1.	VOUCHER CHECK No. 518			\$ 3.50
	REMINGTON TYPEWRITER COMPANY, Louisville. To one-half dozen ribbons coupon book No. 9869.			
July 1.	VOUCHER CHECK No. 519			\$100.00
	CHAS. F. OGDEN, Attorney, Louisville. To attorneys fee in case of W. T. Garman vs. Dr. Board's Sanitarium.			
July 1.	VOUCHER CHECK No. 520			\$336.50
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green. To 2300 64-page June 1st JOURNALS		\$205.00	
	By 1 day's delay			10.00
	By 31 errors in same			7.75
	To 16 changes		3.20	
	To 2300 envelopes		2.30	
	To 2200 48-page June 15th JOURNALS		152.50	
	By 1 day's delay			10.00
	By 15 errors in same			3.75
	To 2200 envelopes		2.20	
	To 14 changes		2.80	
August 1.	VOUCHER CHECK No. 521			\$112.00
	DR. A. T. McCORMACK, Bowling Green. To postage on July 1st and July 15th JOURNALS		\$ 12.00	
	To salary for July		100.00	
August 1.	VOUCHER CHECK No. 522			\$ 40.00

	DR. L. H. SOUTH, Bowling Green.		
	To July salary, Business Manager Regular JOURNAL.		
August 1.	VOUCHER CHECK No. 523		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To July salary, Microscopist.		
August 1.	VOUCHER CHECK No. 524		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To July salary, Stenographer.		
August 1.	VOUCHER CHECK No. 525		\$ 8.96
	CAPITOL ENGRAVING COMPANY, Nashville, Tennessee.		
	To cut of floor plan for exhibit space at Newport	\$ 4.50	
	To half tone Blue Grass Inn	2.80	
	To postage on same	.10	
	To half tone Dr. W. G. Combs' picture for JOURNAL	1.50	
	To postage on same	.96	
August 1.	VOUCHER CHECK No. 526		\$100.00
	MESSRS BERRY & GRASSHAM, Attorneys, Paducah.		
	To attorneys' fee in case of Robt. Littleton vs. Dr. W. H. Parsons, Me- cracken County Circuit Court at its June term, 1914, wherein Littleton sued for \$5000 damages against defendant for malpractice and recovered judgement for \$50.00 and costs.		
August 1.	VOUCHER CHECK No. 527		\$ 45.20
	J. A. MILLER, Clerk, Paducah.		
	To expenses in Plaintiff's costs to-wit:		
	To J. A. Miller, clerk	\$ 12.65	
	To Sheriff Allen	2.60	
	To jury fee and tax	4.50	
	To five witnesses' fee at one dollar each	5.00	
	DEFENDANT'S COSTS.		
	To J. A. Miller, clerk	\$ 7.25	
	To Mrs. Henderson, reporter	5.00	
	To Sheriff Allen	.75	
	To Defendant's costs in first case: Clerk	6.45	
	To Sheriff Allen	1.00	
August 1.	VOUCHER CHECK No. 528		\$167.16
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To express on cut	\$.26	
	To 1000 contract blanks (2 sides)	6.00	
	To 1000 floor plans Newport meeting	3.00	
	To 1000 Commercial exhibits	4.50	
	To 2250 64-page July 1st JOURNALS	202.50	
	By 17 errors in same		4.25
	To 2250 envelopes for July 1st issue.	2.25	
	To 8 changes in same	1.60	
	To 2250 July 15 JOURNALS, 32 page.	105.00	
	To 2250 envelopes	2.25	
	By 11 errors in same		2.75
	To 2250 48-page August 1st JOURNALS	150.00	
	To 2250 envelopes	2.25	
	By 9 errors in same		2.25
	By error in front page of same		5.00
	To changes in July 15th issue (Jeff County).	1.80	
September 1.	VOUCHER CHECK No. 529		\$ 12.75
	C. M. COOMBS, City Tax Collector, Bowling Green.		
	To taxes for year 1914.		
September 1.	VOUCHER CHECK No. 530		\$105.53
	DR. A. T. McCORMACK, Bowling Green.		
	To postage on June 15th JOURNAL	\$ 5.53	
	To salary for August	100.00	
September 1.	VOUCHER CHECK No. 531		\$ 40.00
	DR. L. H. SOUTH, Bowling Green.		
	To salary for August, Business Manager Regular JOURNAL.		
September 1.	VOUCHER CHECK No. 532		\$ 25.00
	MARY FRANCIS SHEA, Bowling Green.		
	To salary for August, Microscopist.		
September 1.	VOUCHER CHECK No. 533		\$ 75.00
	CLYDE W. HOWELL, Bowling Green.		
	To salary for August, Stenographer.		
September 1.	VOUCHER CHECK No. 534		\$ 94.30
	TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green.		
	To 2300 48-page August 15th Jefferson County.	\$150.00	
	By 12 errors in same		3.00
	To 2300 envelopes	2.30	
	By overcharges 11-1, 12-1, 1913: 2-1, 7-1, 8-1, 1914		55.00
TOTAL			\$13,627.11

EXHIBIT "C".

Detailed list of receipts from county so-
cieties from September 1, 1913, to September
1, 1914, compared with incomes of same
period last year.

	1913	1914
Adair	\$ 25.50	\$ 27.00
Allen	28.00	39.00
Anderson	21.00	24.00
Ballard	42.50	51.00
Barren	62.50	71.00
Bath	20.50	35.50
Bell	85.00	118.00
Boone	30.00	45.00
Bourbon	43.00	54.00
Boyd	54.00	57.00
Boyle	40.00	39.00
Bracken	28.00	15.00
Breathitt	10.00	21.00
Breckinridge	55.00	48.00
Bullitt	27.00	39.00

Butler	23.00	20.50
Caldwell	37.50	45.00
Calloway	64.00	71.00
Campbell-Kenton	278.00	200.00
Carlisle	36.00	35.00
Carroll	51.00	45.00
Carter	45.00	57.00
Casey	26.00	39.00
Christian	126.00	137.50
Clark	66.50	54.00
Clay	37.50	27.00
Clinton	15.00	15.00
Crittenden	29.50	29.50
Cumberland	27.00	33.00
Daviess	210.00	207.00
Elliott	8.50	6.00
Estill		8.50
Fayette	173.00	203.00
Fleming	35.00	54.00
Franklin	60.00	63.00
Fulton	51.00	33.00
Gallatin	11.00	11.50
Garrard	32.00	29.50
Grant	50.00	38.00
Graves	83.00	93.00
Grayson	53.00	63.00

Green	18.00	14.25
Greenup	30.00	36.00
Hancock	8.00	3.00
Hardin	73.50	60.00
Harlan	11.00	23.00
Harrison	67.00	60.00
Hart	49.00	47.50
Henderson	102.00	104.00
Henry	55.50	48.00
Hickman	48.00	42.00
Hopkins	72.50	83.50
Jackson	9.00	11.50
Jefferson	788.00	660.00
Jessamine	25.00	21.00
Johnson	35.50	25.50
Knott	6.50	6.00
Knox	45.00	48.00
Larue	35.50	35.50
Laurel	41.50	47.50
Lawrence	14.00	11.50
Lee	17.50	24.00
Leslie	13.00	15.00
Letcher	6.50	25.00
Lewis	11.00	12.00
Lincoln	57.00	51.00
Livingston	28.00	21.00
Logan	78.00	78.00
Lyon	25.00	27.00
McCracken	129.50	122.50
McLean	28.00	27.00
Madison	56.50	51.00
Magoffin	17.50	18.00
Marion	54.00	51.00
Marshall	54.00	51.00
Martin	4.00	3.00
Mason	36.00	36.00
Meade	31.50	29.00
Menifee	6.00	3.00
Mercer	54.00	57.00
Meckale	29.50	31.50
Monroe	25.00	42.00
Montgomery	57.00	57.00
Morgan	15.00	15.00
Muhlenberg	87.00	63.00
Nelson	57.00	47.50
Nicholas	33.00	36.00
Ohio	38.50	30.00
Oldham	27.00	35.50
Owen	23.00	27.00
Owsley	18.00	15.00
Pendleton	51.50	54.00
Perry	32.00	21.00
Pike	25.00	36.00
Powell	22.00	21.00
Pulaski	68.50	56.50
Robertson	15.00	15.00
Rockcastle	19.50	24.00
Rowan	11.50	20.00
Russell	20.50	18.00
Scott	55.00	48.00
Shelby	76.00	78.00
Simpson	36.00	32.50
Spencer	21.00	9.00
Taylor	22.50	27.00
Todd	39.00	35.50
Trigg	26.00	27.00
Trimble	38.50	18.00
Union	62.00	64.00
Washington	39.00	36.00
Warren	167.50	138.00
Webster	46.75	33.00
Wayne	26.50	24.00
Whitley	84.50	81.00
Wolfe	25.50	24.00
Woodford	29.00	24.00

EXHIBIT "D".

Invoice of Property of Association, September 1, 1914.

Addressograph with 5,000 complete address plates with list devices, etc.	\$ 600.00
Folding machine	140.00
2 Oliver Typewriters	200.00
1 Desk	79.00
Filing Cases	64.75
Rubber Stamps	9.00
Typewriter Cabinet	33.00
Guide Cards	7.48
1-3 Adding Machine	106.25
Typewriter Chair	8.00
1 Electric Fan	18.00
1 Desk Chair	32.50
1 Globe Cabinet Safe with Fixtures	130.00
2250 No. 5 two-cent stamped envelopes	59.40
1500 No. 8 two-cent stamped envelopes	32.40
TOTAL	\$1519.78
Reduction for depreciation of machinery	400.00
	\$1119.78

EXHIBIT "G".

Secretary's Monthly Balance Sheet agreeing with the books.

1914	Expense.	Collection.	Balance.
September 1			\$5283.72
September 19	\$1299.72		3984.00
October 1	1226.22	\$ 974.09	3731.87
November 1	2790.54	662.13	1603.46
December 1	832.93	567.34	1337.87
January 1	912.36	839.35	1264.86
February 1	955.65	1835.02	2143.23
March 1	749.02	1047.12	2441.33
April 1	1245.35	2356.05	3552.03
May 1	961.36	1408.62	3999.29
June 1	734.58	607.15	3871.86
July 1	692.48	568.73	3748.11
August 1	873.32	633.93	3506.72
September 1	552.58	289.33	3445.47
Interest on Time Deposit collected		22.50	
By interest on Investment Bond		18.05	
Total Collections		\$11829.41	
Balance September 1, 1913		5283.72	
		\$17113.13	
Balance September 1, 1914			\$ 3486.02
Total Expense			13627.11
			\$17113.13

EXHIBIT "H".

Collections by Editor on account of the JOURNAL, corresponding with checks, deposit slips and receipts filed herewith.

Oct. 1. To Collections to October 1	\$ 717.09
Nov. 1. To Collections to November 1	626.13
Dec. 1. To Collections to December 1	532.84
Jan. 1. To Collections to January 1	435.85
Feb. 1. To Collections to February 1	862.02
March 1. To Collections to March 1	237.12
April 1. To Collections to April 1	461.05
May 1. To Collections to May 1	302.62
June 1. To Collections to June 1	360.15
July 1. To Collections to July 1	464.48
Aug. 1. To Collections to August 1	568.93
Sept. 1. To Collections to September 1	244.33
	\$5812.61

EXHIBIT "I".

Collections by Secretary on account of Kentucky State Medical Association corresponding with checks, deposit slips and receipts filed herewith.

1913-1914	
Oct. 1. To Collection to October 1	\$ 257.00
Nov. 1. To Collection to November 1	36.00
Dec. 1. To Collection to December 1	34.50
Jan. 1. To Collection to January 1	403.50
Feb. 1. To Collection to February 1	973.00
Mar. 1. To Collection to March 1	810.00
April 1. To Collection to April 1	1893.00
May 1. To Collection to May 1	1106.00
June 1. To Collection to June 1	247.00
July 1. To Collection to July 1	104.25
Aug. 1. To Collection to August 1	65.00
Sept. 1. To Collections to September 1	45.00
	\$5976.25

Typhoid Perforation.—Dr. G. E. Armstrong, Montreal, pointed out the great difficulty in diagnosing. The first indication was usually pain, but it was absent in 25 per cent. of the cases. The symptom next in importance was change of expression, which was quite evident in the majority of the cases; 65 per cent. showed a definite alteration, 28 per cent. showed a gradual one, and 7 per cent. none. Tenderness was present in 88 per cent. and absent in 12. Rigidity was distinct in 85 per cent. and not in 15.

REPORT OF THE SECRETARY.

I have the honor of submitting the following report from September 1, 1913, to September 1, 1914. Our roll shows a decrease of practically one-hundred paid members in good standing on September 1, 1914. It is a matter of great regret that it has been impossible to introduce accurate business methods in many of the societies. Approximately 2,400 doctors are carried on the rolls of the various county societies. About six hundred of these pay their dues on an average of about one year in five and are missed in the annual collections by the secretaries the other years. Most of them are good men but are in the counties where societies have paper organizations only. These men fail to receive the JOURNAL and in this way are not kept in touch with the progress of their fellows in the State, do not understand what the organization is doing and, consequently, are not much interested in its affairs. In the past two or three months, quite a number of members have paid their dues. Many of these will not pay them again on the first of the year and in the few months intervening will not get into the habit of reading the JOURNAL. The most important work still before the Association is to make a real working body of each of our county societies. A county society which merely collects the dues of its members at an annual meeting is but little better than none and some few doctors in each county will have to do some real work if their society is to be of any actual value. If those of our members who have not had the benefit of regular meetings and the consequent interchange of scientific and other knowledge with their associates, could attend a few sessions of such societies as are held in Bell, Christian, Fayette, Henderson, Warren, Daviess, Harrison or many of the other sixty or more counties holding regular meetings, this condition of affairs would soon be brought to an end. The only use for our organization is that it better qualifies the practicing physicians who compose it, to do the real work of caring for the sick and afflicted people of the State. I am sure the members will note with interest that in the new text book every child attending our common schools will be taught to ask his family physician whether he attends his county society meetings regularly, and that he is not a safe doctor unless he does so. During the last year we have advanced further in securing popular support for all that is highest and best in modern medicine than we have in receiving the actual professional work and cooperation which is necessary to make our aims realized. It is essential that every doctor in the State understands that the people are being educated as to possibil-

ities undreamed of a few years ago, both in the prevention and treatment of disease, and it is essential that we be prepared to work attuned to this increased popular knowledge. Our records indicate that more Kentucky physicians have been doing post graduate work in the medical colleges than ever before. It is of interest that practically every one of these have come from counties where there are good working county societies.

In the same way and to the same degree does professional organization affect all of the other practical steps which the profession desires to make. During the recent session of the General Assembly, the members both of the House and Senate reflected always, as a mirror, the professional sentiment of their counties. Every county which had a good society which had attracted the favorable attention of the people, had a representative in the Legislature who wanted to favor all the advanced legislation for the protection of the health of the people. In both houses, a large majority of the members were heartily in favor of the Whole-Time Health Officer Bill and it was only defeated at the last moment by a cabal in the Senate which made an unholy combination with various vested interests for its defeat. It may have been better that it was not enacted into law at this session as at the next it can be presented with a clearer demand for its passage. We feel confident that a poignant regret at their share and responsibility for the deaths of hundreds of men, women and children which might have been prevented by an effective health force in each county may be sufficient punishment, and these men themselves will come to Frankfort in 1916 active supporters of this work.

Health campaigns, under the title of "Hookworm campaigns" have been conducted in twenty-five counties. While in a few of these there have been less than one-fourth of one per cent. of the population infected with Hookworm disease, the actual results both in preventive medicine and in the increased confidence in and respect for the profession has been noteworthy. In several counties from two to four hundred specimens have been examined for the bacillus of tuberculosis during these campaigns and the value of such work is apparent. Up to the present time, this work has been largely financed by Mr. John D. Rockefeller through the Rockefeller Commission for the Eradication of Hookworm Disease. The fund so generously donated by him for use in this campaign and over the entire south has been exhausted and this work in future will devolve upon the profession of the various counties and the county boards of health. We believe

the demonstration of the existence of hook-worm disease in one-third of more than 300,000 individuals examined in the State and of some one or the other intestinal parasite in almost one-half of those examined, make it an evident duty for the doctors in the infected districts not to treat any case without having examinations made for the intestinal parasites.

The attached tables show the average membership for six years compared with membership for 1914 with the increase or decrease as the case may be:

FIRST DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Ballard	18	17	..	1
Caldwell	17	15	..	2
Calloway	20	21	1	..
Carlisle	13	11	..	2
Fulton	15	11	..	4
Graves	27	31	4	..
Hickman	16	14	..	2
Livingston	7	7	..	..
Lyon	8	9	1	..
Marshall	16	17	1	..
McCracken	43	41	..	2
Trigg	9	9	..	..
Total	209	203	7	13

SECOND DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Breckinridge	16	16	..	..
Crittenden	11	10	..	1
Daviess	68	69	1	..
Hancock	2	1	..	1
Henderson	34	34	..	..
Hopkins	26	27	1	..
McLean	10	9	..	1
Ohio	14	10	..	4
Muhlenberg	26	20	..	6
Union	20	9	..	11
Webster	11	11	..	..
Total	238	216	2	24

THIRD DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Allen	10	13	3	..
Barren	21	23	2	..
Butler	9	7	..	2
Christian	37	44	7	..
Cumberland	9	11	2	..
Logan	25	26	1	..
Metcalfe	10	10	..	..
Monroe	10	14	4	..
Simpson	11	9	..	2
Todd	15	11	..	4
Warren-Edmonson	49	46	..	3
Total	206	214	19	11

FOURTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Bullitt	9	13	4	..
Grayson	20	21	1	..
Hardin	25	20	..	5
Henry	17	16	..	1
Hart	16	15	..	1
Larne	10	12	2	..
Meade	10	9	..	1
Nelson	18	15	..	3
Oldham	12	11	..	1
Shelby	23	26	3	..
Total	160	158	10	12

FIFTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Anderson	8	8	..	..
Boone	13	14	1	..
Carroll	15	15	..	..
Franklin	21	19	..	2
Gallatin	5	4	..	1
Jefferson	205	218	13	..
Owen	11	9	..	2

Spencer	6	3	..	3
Trimble	7	6	..	1
Total	291	296	14	9

SIXTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Adair	10	9	..	1
Boyle	15	11	..	4
Green	7	5	..	2
Marion	19	17	..	2
Mercer	16	19	3	..
Taylor	9	9	..	..
Washington	11	12	1	..
Total	87	82	4	9

SEVENTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Casey	8	10	2	..
Clinton	6	5	..	1
Garrard	10	9	..	1
Lincoln	17	17	..	..
Pulaski	24	18	..	6
Rockcastle	8	8	..	..
Russell	7	6	..	1
Wayne	9	8	..	1
Total	89	81	2	10

EIGHTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Bourbon	16	16	..	..
Bracken	7	5	..	2
Campbell-Kenton	68	68	..	..
Fleming	12	15	3	..
Grant	15	11	..	4
Harrison	23	20	..	3
Jessamine	9	7	..	2
Nicholas	11	11	..	..
Mason	13	12	..	1
Pendleton	16	18	2	..
Scott	16	16	..	..
Woodford	10	8	..	2
Total	220	212	6	14

NINTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Boyd	17	18	1	..
Carter	19	19	..	..
Elliott	4	2	..	2
Greenup	9	12	3	..
Johnson	11	8	..	3
Lawrence	4	4	..	..
Lewis	5	4	..	1
Magoffin	8	6	..	2
Pike	10	12	2	..
Total	87	85	6	8

TENTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Bath	11	11	..	..
Breathitt	5	7	2	..
Clark	21	18	..	3
Estill	6	2	..	4
Fayette	62	70	8	..
Lee	4	8	4	..
Knott	3	2	..	1
Letcher	4	7	3	..
Madison	18	17	..	1
Menifee	2	1	..	1
Montgomery	15	19	4	..
Morgan	5	4	..	1
Owsley	5	5	..	..
Perry	9	6	..	3
Powell	6	7	1	..
Rowan	6	5	..	1
Wolfe	9	8	..	1
Total	191	197	22	16

ELEVENTH DISTRICT.				
County.	Average Membership for six years.	1914.	Inc.	Dec.
Bell	27	36	9	..
Clay	8	9	1	..
Harlan	4	6	2	..
Jackson	2	4	2	..
Knox	14	16	2	..
Laurel	13	15	2	..
Leslie	4	5	1	..
Whitley	21	27	6	..
Total	93	118	25	..

It will be noted from this table that the eleventh district had much the largest increase in membership. Every county society in the district shows an increase. This shows these societies are working. I have heard doctors from other other parts of the State say that they could get up interest, too, if they had a lot of pellagra and hookworm disease and new things to stimulate interest. It is difficult for most of us to realize that there are more deaths from consumption in many counties than there have been from pellagra in the State, and that there are more cases of typhoid fever in most counties than there have been of pellagra in any. There is plenty of work for any county society to do if it will do it.

Especial attention is called to the decreased total resources of the Association from \$6491.30 last year to \$5635.80 this year. As indicated in the report of the Council, this will be more than covered when the Jefferson County Medical Society makes good the deficit of the Jefferson County issue of the JOURNAL. It will be noted that we were able to print the JOURNAL this year for practically the same as last year and that the JOURNAL is still self-supporting. The biennial report of the food and drug department of the Agricultural Experiment Station will be placed in the hands of each member during the meeting and will, I feel sure, be of great interest.

In conclusion I desire to record my especial appreciation of the active co-operation of practically all of our county secretaries in the routine work of the year, which has been carried on under your direction. Next to the Councilors, who are the *sine qua non* of our system, the county secretary is the most important link in the whole chain. To him fall the arduous duties of making and filling the program and the society is a strong or a weak one in exact proportion to the value of the county secretary. To your officers, and to the whole membership and to my very efficient stenographer, Miss Clyde Howell, I desire to extend my gratitude for the assistance and courtesy which have made the arduous duties of my position unusually pleasant during the past year.

Respectfully submitted,
A. T. McCORMACK, Secretary.

Sarcoma of Both Kidneys.—A few months after measles, diplococcus pleurisy and scarlet fever in quick succession, a tumor developed in each kidney without fever or spontaneous pain and no blood in the urine until toward the last. There were scarcely any signs of uremia and the rapid debility suggested malignant disease, as also the rapid growth of the tumors followed by a subsidence in size as part of the tumor broke down.

REPORT OF BUSINESS MANAGER.

As the JOURNAL is owned and managed solely by the members of the Association, no outsider having a dollar's worth of interest in or voice in the direction of its affairs, the following tabulated statement, showing a comparison of its doings for the previous seven years with those of 1914, should be of abiding interest to every one of you and to every member of the county society you represent at this auspicious meeting:

STATEMENT	1907-1913	1914
Number of pages of reading matter	6769	908
Number of advertising pages	2836	472
Special Articles	74	5
Official Announcements	253	47
Scientific Editorials	212	19
Editorials	539	65
Book Reviews	243	48
Index	51	7
Minutes of County Societies	1287	81
Original Articles	1576	249

HOW THE JOURNAL IS MAINTAINED.

During this period of seven years over 438,060 JOURNALS were mailed to the physicians of the State, at a net profit of \$954.13. This means that the entire cost of the printing, distribution, and other expenses incident to the work of placing this enormous amount of live literature in your hands has been paid from funds received from your advertisers, with a net profit of \$136.30 per year. In fact the chief income of the Association for all purposes has been from our advertising pages, and this gratifying financial statement would not be possible but for the recognition by county societies and the membership generally of this interest in the success of this feature of the JOURNAL. But there is still more to be done. To meet the growing demands of the county societies and to continue to be able to publish every article and county society report that comes to the office, as we have always done in the past, it is necessary to secure more advertisers and to always, when practicable, patronize those we have.

Occasionally an advertisement appears as a test of whether or not an interest is taken in our advertisements by the members and future contracts and renewals are made upon the returns received. We earnestly urge every member to look through the advertising pages of each issue and in making orders for needed supplies show as much interest in your advertisers as you do in the balance of the JOURNAL, remembering that in doing so you will provide means for a bigger and better JOURNAL.

EXHIBITORS

An especially active campaign was made to secure exhibits. A brochure containing the floor plan, price list and a picture and description of the place of meeting, was mailed to every reputable manufacturing firm in America with the result that we have secured

a most creditable display. A full description of each firm's exhibit and space number will be found elsewhere in this issue.

Only those firms can exhibit that are reputable. We earnestly urge you to save your orders until you can see if it is represented here.

COUNTY SECRETARIES.

The County Secretaries Association was organized in 1909. Since that time Monday evening of each session has been devoted to full discussions of all the important problems likely to confront the secretaries. Under the able guidance of the President, former efficient secretary of the Jefferson County Medical Society, Dr. A. C. L. Perefull, of Louisville, a splendid program has been arranged and all county society officers and members are cordially invited to attend.

INDEX.

The January issue contains a complete Index to Volume XII. All articles are indexed under the proper subject heading, and cross-indexed under the most important word of the heading used in the JOURNAL so that ready reference to the subject is made easy. Each month's proceedings of your county societies are listed so that a file of the JOURNAL can be used for the official records of secretaries. Names of all physicians who have contributed in any way to the JOURNAL are also included in the index.

HOW EACH COUNTY SOCIETY HAS HELPED THE JOURNAL.

Every article and county society report sent to the office has been published, and as a matter of interest to the entire profession the following is published to show what each county society has contributed to the JOURNAL for 1913 and 1914:

COUNTY	MINUTES		ORIGINAL ARTICLES	
	1913	1914	1913	1914
Adair	3	2	4	2
Allen	1	0	0	0
Anderson	0	0	1	1
Ballard	1	0	4	0
Barren	3	0	5	0
Bath	0	0	1	0
Boone	0	2	0	0
Bell	2	1	7	19
Bourbon	2	1	1	0
Boyd	0	0	3	0
Boyle	0	0	0	2
Bracken	0	0	0	0
Breathitt	0	1	0	0
Breckinridge	0	0	0	0
Bullitt	0	0	1	2
Butler	0	0	0	0
Caldwell	0	2	1	0
Calloway	1	1	2	3
Campbell-Kenton	2	0	7	2
Carlisle	4	3	5	3
Carroll	0	0	0	0
Carter	1	2	0	0
Casey	5	1	1	0
Christian	5	5	1	3
Clinton	0	0	0	0
Clark	0	0	2	1
Clay	0	0	0	1
Crittenden	6	0	4	3
Cumberland	0	0	0	0
Daviess	3	5	12	10
Elliott	0	0	0	0

Estill	0	0	0	0
Fayette	1	0	7	6
Henry	1	1	0	1
Hart	0	0	0	0
Franklin	2	3	1	2
Fulton	0	1	0	0
Gallatin	0	0	1	0
Garrard	0	0	2	0
Grant	1	0	1	1
Graves	1	1	0	0
Grayson	1	0	0	0
Greenup	0	4	0	5
Hardin	1	0	0	1
Harrison	4	4	1	2
Hartlan	0	1	0	0
Hart	3	0	1	1
Henderson	2	5	3	3
Henry	0	2	1	3
Hickman	0	0	1	0
Hopkins	0	0	0	3
Jefferson	21	1	155	108
Jessamine	0	0	0	0
Johnson	0	0	0	0
Knox	2	1	2	2
Laurel	0	1	1	1
Lee	0	0	0	0
Lincoln	0	0	1	1
Logan	1	0	1	2
Lyon	1	0	1	0
McCracken	0	2	1	1
McLean	2	1	0	1
Madison	0	0	0	1
Marion	0	0	0	2
Marshall	0	0	0	0
Mercer	0	0	1	0
Mason	1	0	0	1
Meade	0	0	0	0
Metcalfe	0	0	1	0
Magoffin	0	0	1	0
Monroe	1	0	0	0
Montgomery	0	0	1	0
Nelson	2	1	3	1
Ohio	0	0	0	0
Oldham	5	3	0	14
Owen	1	1	0	0
Owsley	0	0	0	0
Pendleton	11	10	3	13
Pike	1	0	0	0
Pulaski	0	0	0	0
Rowan	1	1	0	0
Russell	1	0	0	0
Scott	5	1	0	0
Shelby	3	3	0	1
Simpson	1	0	5	1
Spencer	0	0	0	0
Taylor	1	2	2	1
Todd	0	1	0	1
Trigg	0	0	0	0
Trimble	0	0	0	0
Union	0	0	0	0
Warren	8	4	8	5
Washington	1	0	2	0
Wayne	1	0	1	1
Whitley	2	2	1	0
Wolfe	1	0	0	0
Woodford	6	0	0	0
Total	124	83	282	238

Earnestly trusting that each one of you will return to your county societies resolved to encourage its membership to do even more than it has in the past to hold up the hands and extend the usefulness of the JOURNAL.

I am, yours sincerely,

L. H. SOUTH,
Business Manager.

Movable Kidney.—Tichy reviews the various methods for correction of a wandering kidney, citing 461 articles bearing on the subject. His conclusions are in favor of suspending the kidney from the twelfth rib by means of a ring formed from its periosteum. This proliferates to form an adequate support which interferes less with the functioning of the kidney than any other material that can be used for the purpose. He found it far superior to fascia for the purpose.

SIXTH ANNUAL REPORT OF THE MEDICO-LEGAL COMMITTEE.

The following yearly record will show the number of cases reported each year and those remaining on the files to be disposed of. Since the organization of this Committee in 1909, we have succeeded in disposing of forty-nine cases. The only loss we have had, occurred this year when a verdict of \$50.00 was rendered against the doctor and the trial Judge denied a new trial and we could not take an appeal on account of the small verdict.

1909.....	5	0
1910.....	0	0
1911.....	11	1
1912.....	13	3
1913.....	18	1
1914.....	17	19
Total.....	64	15

Since our last report we have lost the services of our wise counselor and good friend, Mr. E. W. Hines.

However, we were equally fortunate in securing Mr. Fred Forcht to act as our general counselor. He has fought more malpractice cases than any man in the State and comes to us as an experienced man—we might say a specialist. We were lucky to get him.

Respectfully submitted,
(Signed) JNO. J. MOREN,
Chairman.

THE COMMERCIAL EXHIBIT.

MELLIN'S FOOD COMPANY, BOSTON, MASS.
SPACE 1.

The Mellin's Food Company invite you to their exhibit, where they will be represented by Messrs. Boyd Thomas and George W. Sweeney.

Physicians will be given every opportunity to know definitely the composition of all milk mixtures resulting from the Mellin's Food Method of Milk Modification.

This information, so readily obtained, places the matter of "food mixtures" directly and completely in physicians' hands to advise and adjust as the needs of the individual infant dictate.

There is nothing obscure, there is nothing to surmise, in the use of this clearly defined method.

THE CHAS. H. PHILLIPS CHEMICAL CO., NEW
YORK AND LONDON. SPACE 2.

We will exhibit:

Phillips' Milk of Magnesia—A pure hydroxide of magnesium. "The perfect antacid" and milk modifier.

Phillips' Phospho-Muriate of Quinine Compound—A condensed form of tonic and cell-builder.

Phillips' Emulsion of Cod Liver Oil—Fine as fat in chyle—ready for absorption.

Phillips' Digestible Cocoa—A nourishing, easily digested, liquid food—substitute for plain milk when latter is not liked or is tired of.

APPLETON & COMPANY, NEW YORK, SPACE 3.

A number of important new medical publications will make the exhibit of D. Appleton & Company one of wide-reaching interest and attention. Not more than once in a quarter century is there published a work comparable to Billings-Forehheimer's "Therapeutics of Internal Diseases." This monumental production is now complete, the fifth volume on Serum and Vaccines and index having recently come from the press. So broad is the scope of this work that it is impossible to summarize its many, splendid qualities in a paragraph. Needless to say it covers the field of modern therapeutic progress thoroughly with elaborate chapters on the all-important subjects of serums, vaccines, toxins, etc. The latest findings in syphilis and every phase of immunology are incorporated in this epochal work.

Another timely work produced under the auspices of this progressive house is Kelly and Burnam's "Diseases of the Kidneys, Ureters and Bladder" in two volumes, with 554 original drawings by Max Brodel, the cost of which alone was \$20,000.

Among the other new publications of D. Appleton and Company are Gwathmey's "Anesthesia," Behan's "Pain," Crile's "Anemia and Resuscitation," Stockton's "Stomach," Thompson's "Occupational Diseases," etc.

PITTMAN-MOORE CHEMICAL COMPANY, INDIANAPOLIS, INDIANA. SPACE 4.

Will exhibit representative collection of their high quality chemicals and pharmaceuticals.

TERRE HAUTE INHALATORIJUM CABINET Co.,
TERRE HAUTE, INDIANA. SPACE 5.

The Terre Haute Inhalatorium Cabinet Company of Terre Haute, Indiana, will contain an exhibit of the Inhalatorium manufactured by the company. All progressive physicians will be interested in this exhibit. The Inhalatorium is used in treating those cases that were formerly considered amenable to change of climate, by volatilizing remedies to be inhaled; also those cases usually considered amenable to the mineral springs treatment, by volatilizing remedies for medicated baths. The number of Inhalatoriums in use and the endorsements of physicians in various parts

of the country for more than ten years warrant us in calling your attention to it especially. The company will give special discounts at this meeting. Do not fail to see this exhibit.

HORLICK'S MALTED MILK, RACINE, WISCONSIN.
SPACE 6.

Horlick's Malted Milk Company, will exhibit the Original-Genuine, Horlick's Malted Milk in both powder and tablet forms, and also serve the famous Horlick's Malted Milk ice cream. The delicious and distinctive flavor and aroma which characterizes the Original-Genuine, Horlick's Malted Milk, together with its high nutritive value are the results of many years of experience, and unequaled facilities. These are distinctively Horlick qualities and are obtainable only in the Original-Genuine product.

WELCH GRAPE JUICE COMPANY, WESTFIELD,
N. Y. SPACE 7.

This firm will have a large and handsome booth in the form of a grape arbor, completely covered with artificial grapes and vines, from which will glow hundreds of tiny electric lights. Here Welch's The National Drink will be dispensed to the Delegates and their friends. In addition to its food value, Welch Grape Juice is being used by physicians as an excellent menstruum in which to administer oily and other disagreeable medicines.

E. R. SQUIBB & SONS., NEW YORK. SPACE 8.

Among the exhibitors at this year's meeting will be the old and well-known firm of E. R. Squibb & Sons, of New York, who will have a comprehensive display of their high-quality chemicals, pharmaceuticals, tablets, and biological products. A unique and very interesting feature will be the exhibition of the impurities removed from certain chemicals of regular pharmacopoeial purity in order to bring them up to the higher, Squibb quality. The exhibit will attract a host of callers, to all of whom it will prove of keen interest.

THE WHITE-HAINES OPTICAL COMPANY,
COLUMBUS, OHIO. SPACES 14, 15.

We expect to display a full line of optical supplies, and to particularly feature The Roger's Dioptrimeter.

This is an instrument to use for testing the vision, and is a machine that all doctors could use to good advantage, as it enables them to recommend their patients to an oculist intelligently, as they can tell for sure if the vision is defective and can get a good idea as to

about what is required for the correction, and with a little practice could use the instrument to the advantage of their patients.

REED & CARRICK, JERSEY CITY, SPACE 16.

The exhibit of Reed & Carrick will be purely of a scientific nature showing the different stages in the manufacture of their various physiological and glandular products. Each gland is shown separately beginning with the macerations of the fresh glands as they come from the animal selected, down to the final stages where, as a fine powder, they enter into the formation of the particular products desired. The glands exhibited in their various stages of preparation are in part the pancreatic, peptic, intestinal, thyroid, thymus, renal, splenic and salivary glands. Tests for some of the special internal enzymes of the glands will be made, and the microscope will be used to show the microscopical appearance of the various nucleic enzymes as they appear in powder form."

F. WALDO WHITNEY, NEW YORK. SPACE 17.

We will exhibit Whitney's Reagent: quantitative and qualitative test for sugar, Neutral Hypophosphites, strictly ethical, Hypodermic Tablets: soluble, accurate, reliable, Phecolates: powerful cholagogue, antiseptic, Phecolax: laxative, amolytic, protolytic, emulsifiant, Phecotones: cholagogue, antiseptic, laxative, excitomotor, stimulant. Whitney's Reagent has been used by the medical profession principally in this state, since 1896 and is the standard qualitative and quantitative test for sugar in the urine, giving quantitative results in two minutes. Neutral Hypophosphites is an ethical preparation with the same salts and dosage of Fellow's syrup. It is a chemically pure preparation of medicinal salts in U. S. P. simple syrup, and is advertised and sold to the medical profession only. This preparation and our Hypodermic Tablets have been on the market ever since 1882.

SHARP & SMITH, CHICAGO. SPACE 20.

The exhibit of Sharp & Smith will be a complete display of surgical instruments comprising the latest and most improved models. We might also state that every visitor will receive a handsome souvenir of the occasion.

The exhibit will be in charge of Mr. Hutchcraft who has been in constant attendance at the State Meeting for six years.

THE BLICKENSBERGER MANUFACTURING COMPANY, CINCINNATI, OHIO. SPACE 21.

We will exhibit a new line of typewriting machines. Our number 8 model being especially adapted for the physician's use.

H. M. ALEXANDER & Co., MARIETTA, PENNSYLVANIA. SPACE 22.

We expect to prepare an exhibit illustrating the products we manufacture as well as the various steps taken in the manufacture of said products. We will also demonstrate the various devices we have for administering the products.

R. L. HAWKINS, CINCINNATI, O. SPACE 23.

In addition to the Green Cross Bandages and Bacterial Vaccines, I will have on display an extensive line of the fine products of Burroughs Wellcome & Co., of London, England.

CARNES ARTIFICIAL LIMB COMPANY, KANSAS CITY, MISSOURI. SPACE 24.

The exhibit of mechanical arms and hands by the Carnes Artificial Limb Company, of Kansas City, Mo., will be of interest to all surgeons and physicians. The demonstration will consist of men wearing the artificial arms for different amputations.

They will exhibit a mechanical arm with automatic opening and closing fingers, turning and bending wrist, and for amputations above the elbow, natural elbow movement. These movements are all accomplished without any assistance from the good hand.

Lesions of the Thyroid Gland in Exophthalmic Goiter.—Roussy and Clunet give an illustrated description of the changes they found constantly in the thyroid gland in twelve cases of exophthalmic goiter and never in ordinary goiter or in mere thyroiditis. These lesions are so characteristic, they say, that microscopic examination of a single scrap will serve to differentiate the disease without further data. The changes found suggest that drugs to combat infection, sodium salicylate, quinin, arsenic, mercury, may be useful at first. When the lesions are once established, palliative organotherapy or removal of the thyroid or thymus is indicated unless radiotherapy is given the preference. This acts more like a gradual natural process, and has the advantage that it acts on both thymus and thyroid.

ORIGINAL ARTICLES

GONORRHOEA IN THE MALE.*

By ROBERT T. HOCKER, Arlington.

Our efficient Ex-officio Committee honored me even more than they probably thought of at the time in assigning to me one of the most important subjects in the limitless area of Medical Science.

We have to meet an acute inflammation of the cocci of suppuration.

Gonococci are the prime cause of the development of the disease. Gonorrhoea is one of the most common and widely disseminated diseases that afflict the human family. It is estimated that one-half of all sterile women and a large per cent of sterile men have become so as a result of this disease. It must bear the blame of causing a great many abortions, for above fifty per cent. of female pelvic diseases and many cases of blindness from infection of eyes of children during delivery. In the male the disease begins within the meatus and fossa navicularis, rapidly extending until the entire urethra is involved. The mucous membrane swells and becomes congested, the discharge is first mucous and serum and within one or two days pus. For from five to ten days the inflammation steadily increases then is stationary for a few days when it begins to decline, the discharge becoming thinner in consistency and less profuse. The duration of an average case of gonorrhoea is from six to ten weeks as given by DaCosta. Your essayist fully believes that when he has taken charge of cases within two or three days of the initial symptoms he has relieved them within from two to three weeks. DaCosta says that when even limited to the anterior urethra they are rarely cured within from four to six weeks. What an attack signifies is brought to light in part by its complications some of which are gonorrhoeal arthritis, myelitis, poliomyelitis, and multiple neuritis, mild septicemia, myositis, plebitis, mild endocarditis, cerebral embolism, cerebro-spinal meningitis, and gonorrhoeal rheumatism. Pardon a digression, gonorrhoeal arthritis is so intractable and the cause of such suffering that we have a horror of it. The period of incubation is from a few hours to two weeks, ordinarily it is from three to five days. The diagnosis is usually not difficult. It is unnecessary to enter into details of symptoms before such a body as this. The swollen penis, painful micturition, and chordee would enlist the sympathy and arouse the interest and energy prompting to the best

*Read before the Carlisle County Medical Society.

effort—of which he is capable—of any practitioner worthy of the noble title of doctor. It would be extremely unfortunate for a case of gonorrhoea to be overlooked, every urethral discharge should be carefully examined in order to make a positive diagnosis. The rule should be applied to all cases of gleet, purulent ophthalmia, the discharges from inflamed joints in children. Catarrhal gonorrhoea or subacute gonorrhoea is liable to develop in men who have had gonorrhoea from prolonged or frequent coitus or from contact with menstrual fluid, leucorrhoeal discharges. Chronic catarrh occurring perhaps in a larger percentage of cases in the small towns and country districts than in the city is caused by neglect of all treatment except such as suggested by the laity, and a small percentage of cases by inefficient treatment and most of these not due to incompetence of the doctor but his inability to get his treatment properly carried into effect.

Treatment of acute gonorrhoea: The greatest difficulty with which we have to contend is getting our patients to obey our instruction in minor matters comparatively but are essential to our success in getting the best results. Direct him to wash his hands always after touching the parts, dry with an individual towel used for no other purpose, wear a suspensory bandage. Refrain from violent exercise, especially much walking, horseback or bicycle riding. There is no harm in moderate exercise, its effect is wholesome. Sexual congress nor excessive sexual excitement is allowable. Spiritous, vinous, and malt liquors to the amount of one drop is to be prohibited. In case of heavy drinkers a small amount of whiskey largely diluted may be taken with a view to preventing impairment of the general health. Three times a day bathe the penis not less than five minutes in a cup of warm water containing oz 1 of common salt. The pain of micturition is greatly diminished by immersing the penis in warm water. Catch the discharge as it flows from the meatus but never tie a string around the penis. Abortive treatment can only succeed when used within two days after the first symptoms are in evidence. We are rarely consulted until the time for abortive measures has passed. This course usually ends in failure. I never have nor do I ever expect to try it. Nothing would in all probability be accomplished except crippling the urethra. In the cities where the disease is more prevalent abortive treatment is sometimes admissible, the unfortunates being more prompt in making their troubles known. A treatment which has been successful in a limited number of cases carefully selected in Professor Orville Howitt's clinic is as follows: after

urination four drops of a four per cent solution of eucain is injected, after this one or two drams of 1-4 percent solution of protargol is injected and retained for three minutes, injections are repeated every two hours when awake. If successful recovery is accomplished in about seven days. Another abortive treatment is the injection of hot solution or corrosive sublimate 1 to 20,000. Abortive treatment should be abandoned after three days unless there is decided improvement. I am not afraid to go on record as opposed to it under any circumstances. The use of tea, coffee, fish, pickles, in brief articles difficult to digest, and excessive exercise should be prohibited. Irrigation treatment has given happy results. Begin with permanganate of potassium 1:4000 gradually increasing up to 1:1000, use once or better twice a day for five or six days. Nitrate of silver injections 1:12,000, increased to 1:8000, is an excellent treatment. The irrigation treatment is not applicable where there is a stricture. In mild cases weak injections may be begun at once. Permanganate of potassium 1:400, sulphate zinc 1-2 to 1 grain, 1 oz. boric acid, 10 gr. 1 oz. peroxide hydrogen 10 to 15 per cent, protargol beginning with 0.25 increasing gradually to 1 per cent. Argyrol is perhaps the best of all the silver preparations and may be begun with a two per cent solution increased if necessary to five per cent. Methylene blue is a valuable agent. Give two grain capsule three times a day. With the stage of decline the strength of the injections is reduced and continued for from ten to twelve days after the discharge has ceased. At the onset of the disease if there is chordee, violent pain, hemorrhage, swelling, free purulent discharge, injections are contraindicated. For painful micturition let patient urinate with the penis immersed in hot water and administer chlorate or nitrate of potassium. For chordee an action of the bowels every evening has a wholesome effect. Bromide of potassium in fifteen to twenty grains every four or five hours during the day and a dose of thirty to forty at bedtime. When can we pronounce our patient well? When the purulent discharge ceases the patient considers himself cured or so nearly so that nature will finish the work. Urotropin is said to render the urine sterile. A syringe with a hard rubber point should be used in giving the injections. As already indicated the patient is liable to believe himself cured when he is far from it. Doubtless doctors sometimes err upon this point. We are well aware of the painful truth that but a small percentage of the victims of the disease are ever cured. When a case of gonorrhoea continues over ten weeks we denominate it gleet. The discharge is

but slightly purulent. On being consulted in this class of cases the gentleman kindly informs us "that he had gonorrhoea some two or three months since but is now well." "To be sure there is a little thin clear discharge but that his case is so trivial that he does not think he needs anything but Doc"—they nearly all address us in that easy, confident familiar manner. In addition to being called "Doc" we are told "if we really think it necessary you can prepare me a fifty cent or even a one dollar prescription which I suppose will be ample to cure me." The doctor, inured to suffering as we all are, does not attempt to commit manslaughter, swear, nor even get mad. The physician knows that he has a hard ordeal before him requiring many months of efficient labor before he can even hope for success to crown his efforts and then it often terminates in failure.

To include the numerous, the almost countless complications, and sequela would needlessly prolong this paper. No doctor is worthy of a place among us who is not fully aware of the fearful gravity of this awful disease. There is no individual who can feel perfect safety. It is the imperative duty of the members of our good profession (the most unselfish on earth) to warn our citizens of the fearful ravages of this loathsome malady. And urge with all of the energy of our souls our people, especially our boys and girls from twelve to the consummation of marriage and to the close of life, to lead lives of chastity and purity even in thought. Unchastity is the greatest curse of the age. If all men and women would lead pure, virtuous lives we estimate that approximately one-half of human affliction would vanish from the earth.

HELP THE HOSPITAL.*

By MRS. ELLA GREEN DAVIESS, Matron of Owensboro City Hospital.

That city is blest that can point to a well equipped hospital. It is a blessing to any community. Daviess, and the surrounding counties may justly be proud of the Owensboro Hospital, in that the counties have the privilege of sending their sick pay patients there as well as their charity cases. While we do not treat any one outside of the city limits free, yet there is a pauper fund set aside by every county that can be used, with advantage by getting hospital service for the sick poor. I want to give a brief account of the growth of our hospital. The first patient was admitted December 10, 1899, and in 1900, the first complete year of its existence only 51 patients were admitted. During the year

of 1913, 422 patients were admitted. There were 4,601 days of care of private patients and 3,058 days care of charity patients. Our daily average was 21 patients. In three days we cared for more patients than in the first year of the hospital. These figures reflect more than a growing population they evidence that the people are realizing the benefits of hospital care. In 1900 not one graduate nurse was in Owensboro. In 1901 a Training School for Nurses was opened, from which 17 nurses have graduated, and there is now in training 13 young women who will take the three years' course, which consists of two lectures per week from October to June, given by the doctors of Owensboro, as well as daily lessons given by the superintendent of nurses.

I am proud to say that we have a training school for nurses as good as is found in the State. It is governed by directors of the Owensboro Hospital Training School of which our Dr. Todd is President. Our work is not limited, but all kinds of operations are performed, from the gravest major operation down to the most simple, plastic operations. What results you may ask? Out of 203 operative cases in 1913, only three died. What attention do the patients receive? We as nurses, follow our doctors' orders to the best of our ability. When the case needs a special nurse, if he can afford it, he has the privilege of getting one. If the patient cannot afford it, then we, the nurses, for humanity's sake do double duty and see him through, thus giving him the benefit of special care. Our city charity patients, are looked after by doctors from the city medical society. Two on for a month at a time. I can truthfully say that they receive the best of attention as the foremost medical and surgical doctors in Owensboro serve on the staff. Then we have three ear, eye, throat and nose specialists, who serve three months, turn about on the staff. Therefore, there is nothing that comes up in medical or surgical cases that is not met and the best care given. Do we take patients from outside of Owensboro? Just as many as we can get, or at least up to our full capacity which is 75 beds. We have a rate of \$2.00 per day for those who are able to pay, in addition we charge \$5.00 for major operations and \$3.00 for minor operation, and if we furnish dressings and medicine we charge just what it costs us. But if the patients are not able to pay, those living in Owensboro are cared for free, while those from the counties can get a permit from their county judges or from the magistrate in the district from which the patient comes, and receive the same care that is given to other pay patients. I find it cheaper

*Read before the Hancock County Medical Society

to send the sick poor to the hospital at \$2.00 per day, than to furnish the necessary nursing and food at their homes. Besides if the patient is to make a speedy recovery, he must be lifted out of his surroundings as a usual thing. I believe our prices will compare favorably with other Hospitals for we seldom ever tack on extras, a thing done by most hospitals.

When the Mayo's were asked if they expected to do any business in the out-of-the-way town of Rochester, they replied, "Yes, for we are going to have what the people want." I think we have what the people want, a good up-to-date hospital, prepared with scientific methods for caring for the sick, and it is a haven of rest for those stricken with disease. It helps nature to restore to health those who are ill, it also furnishes a laboratory for our physicians. Here practice may develop into skill, for without practice in medicine, or any other profession, the practitioner naturally retrogrades. I want to thank the doctors of Lewisport and Hancock county for this liberal patronage in the past, and hope you will keep it up. I, as superintendent of the hospital, invite you one and all to come down and see what we have and what we can do. I want you to take my word for it, that our doctors can do and have done as good work as the doctors in larger cities, and the patient has the comfort of being near home and loved ones. It takes doctors to make hospitals, and if you want a good hospital at your own doors, then give to Owensboro your patronage, and we will soon have a world-wide reputation, and people from everywhere will flock to us. Doctors it remains with you whether we progress or retrogress.

UTERINE DISPLACEMENTS; VARIETIES AND TREATMENT.*

By O. W. BROWN, Lenoxburg.

There is perhaps no subject connected with gynecology of more interest, and been abused more than this. Both the physician and surgeon find an immense field of practice here, and I will say also, that the quacks don't forget to come in for their share of the proceeds from this source.

When we stop to think of the anatomy and topography of the uterus we might wonder how any woman could go through life without having some sort of uterine displacement. The uterus swings as a hammock in the middle of the pelvic cavity, and is supported by delicate bands, ligaments and atmospheric pressure.

When we consider the structures that are above and pressing to some extent constantly during active life, there is little wonder that the uterus becomes displaced in so many different directions.

In order to intelligently understand the abnormal positions of the uterus we should have a clear understanding of the normal position of this organ. Different authors have different opinions as to the exact location of the normal uterus, but all agree that it is in very slight anteversion and that the axis of the uterus corresponds to the axis of the inlet of the pelvis. Of course we can readily see that the position of the woman would naturally change the position of the uterus to some extent, and I believe that is one reason we are often misled in making vaginal examinations to determine the location of the uterus. But granting this position to be the natural one, and one in which we would expect to find the uterus in all healthy women, we are almost astounded sometimes to find the uterus in some extreme abnormal positions, and yet causing no discomfort to the woman.

In our examinations for uterine displacements we should also remember that a healthy uterus is freely movable and may be temporarily displaced by the contents of the bladder, rectum, respiration, intra-abdominal forces, etc. The displacement could readily be understood if the pressure from any of these mechanical influences were removed.

Text books classify many different varieties of uterine displacements, but these are only synonymous with other influences, both intra and extra-abdominal.

We have descent, anteversion, ante flexion, retroversion, retroflexion, lateral version, lateral flexion. Three degrees of descent. Retrolocation and if there is any other possible position we may have it also. These malpositions are determined by excessive change in the inclination of the uterine axis and I don't believe any of us are capable of distinguishing some of these positions in our ordinary examinations.

I don't know what the experiences of others have been, but I have found that descent (or prolapse) and the retrolocation of the uterus has given more trouble than all the others combined. Although only very recently I saw a third degree prolapse that gave the woman very little discomfort.

Just why these malpositions in one woman will cause very little disturbance and same condition in another will confine her to bed is something we cannot understand, but yet we all see this very thing frequently. It is of importance to know of the untold suffering, and so many different aches and pains

*Read before the Pendleton County Medical Society.

that accompany these displacements and their complications.

I don't believe these women suffer so much from the misplacements direct as they do from complications arising from long standing malpositions. The uterus becoming fixed in some of these positions will bring on many disorders, such as metritis, ovaritis, salpingitis, atresia, stenosis, cystitis, peritonitis, tumors, cicatrices and innumerable complaints that we sometimes term neurotic or hysterical. We must remember that there is a reason for almost every physical discomfort if we can but run it down, and there is a reason for the woman who vainly goes from one physician to another seeking relief. There is a reason for the aching pains in her back, dragging sensation worse on standing or walking, pains in back of neck, and head, loss of energy, cardiac palpitation and many other symptoms that we are all familiar with.

As to the treatment of these conditions, there is much to be said and I can't hope to more than mention some of the most important points in this short paper.

Some men would probably assume the treatment to be purely surgical, but this would be far short of some very important local and constitutional remedies that are of undoubted benefit. One potent factor in the cause of so many failures in these cases is a false timidity on the part of both physician and patient. We have had and have frequently, a woman to come into our office, relate some of her aches and pains to us, and conscientiously expect us to prescribe for her relief without any further examination, and I am certain many of us do this very thing, fearing a vaginal examination might be objected to. I consider that most any member of this society is competent to make many diagnoses, direct, and carry out treatments and best of all, cure his patients if only a thorough examination had been made before he referred the case to some one in whom he had more confidence. If we will observe the other fellow's examination of our patients, we often wonder why we did not see the same thing? We could if only our examinations had been as thorough as his.

These are cases that absolutely demand examination, by inspection, palpation and other procedures that may seem necessary. There are so many different conditions that may be in the female pelvis to give rise to symptoms that simulate uterine displacement, it is absolutely impossible to advise scientific treatment without a thorough examination. So we may say that one of the most important features of the treatment would be a correct diagnosis.

The surgical treatment of many (or per-

haps all) of these misplacements is, of course, resorted to when other measures fail. And even here we are many times sadly disappointed in results, for many times in the course of a few months or years the same old story begins anew and the patient drifts off into the clutches of the quacks and patent medicine venders.

The important point in these cases is when shall we operate and what shall be done at operation?

It seems to me that absolute rest in bed with tonics and nutritious diet has in the course of a few weeks worked wonders in some of these cases and I am not so hasty to advise an operation now as formerly. Explain to your patient just why the rest will do her good and usually she will take your advice. It is only a mechanical proposition to understand why these ligaments and bands when relieved of the tension and congestion that must be there to cause these conditions, may be relieved by the recumbent posture. If after two weeks of rest, tonics and good food, the symptoms do not improve it is time enough then to operate and the woman will be in much better condition to go to the operating rooms. Of course in long standing cases in the extreme of any of these we naturally would not expect this rest treatment to do very much good.

But above all things don't torment your patients with any sort of a pessary, for they will do more harm than good. If the doctors of this and all other medical organizations were alive to the fact that Lydia Pinkham's cure-all for female diseases is supported and enriched by these female sufferers they certainly should and would do all in their power to fortify against the appearance of this nostrum in any home. But we are forced to admit that this company receives dollars to our nickels in the treatment of these sufferers, for in many instances the patient has spent many dollars with this company before she consults her physician. I often have women consult me as to their suffering and many will state that they are "taking Wine of Cardui," or some other worthless preparation and want to know if I think it is good for her. I always ask her if she understands just what is wrong and almost always she will state that, Mrs. So-and-so told her she had female trouble, and advised her to get Lydia Pinkham's medicine. Then I ask her if it has done her any good, and usually get the answer in the negative. Now, right here is where we should get busy and prove to this woman that we are real live and up-to-date doctors, and that there is nothing but fraud and disappointment in these high priced and worthless preparations. Our patients are beginning to know

what we can do and when we advise operative procedures these days in this and all other conditions that demand it, we are not met with such resistance as in former years.

So, if your patient is in need of an abdominal section to correct any of these malpositions, don't hesitate to tell her so, for the cure of a few of this kind in a community will be well advertised by the patient and place a stigma on the name of nostrums that will take sometime to eradicate. Also place laurels on the crown of her family physician in whom she will have all confidence ever after. So don't feel satisfied with a few questions to your patient, giving her a perscription or a bottle of medicine and telling her to return in a few days for you no doubt feel in your own mind that she will not be relieved without your knowledge as to the exact condition and are doing both the patient and yourself an injustice.

SOME PROBLEMS IN INFANT FEEDING.*

By J. T. DIXON, Owensboro.

It is a well known fact that our heaviest death rate is with infants under two years old. And it is a fact equally well known that this mortality is largely dependant on disorders of digestion. In truth, it is estimated that 68 per cent of all sickness in infancy is due to dietetic errors, and that 80 per cent. of all sickness in the artificially fed infant is due to gastro-intestinal disorders. By far the largest mortality per cent. is drawn from these artificially fed babies. It has been estimated by so good an authority as Griffith of Philadelphia that the breast-fed baby has at least five times the chance of living that the bottle-fed baby possesses. Dr. Jacobi has advanced the theory that the reason babies while at the breast do not so readily contract contagious or infectious diseases such as diphtheria, scarlet fever or any other disease the mother may have had is because the mother accumulates antitoxins in her blood and tissues and in her future milk, thereby protecting both herself and her nursling. Therefore, mothers' milk has certain protective properties not possessed by any artificial foods. We may then assume it proved beyond question that the absence of breast-feeding is perhaps the chief cause of infantile mortality in the first and second years of life. We are justifiable in going even further than this and claim that the pernicious results of bad bottle feeding in many cases is noticeable in after-life. Is it not the general experience that many bottle-fed infants in later years suffer from various forms of indigestion, anaemia,

rickets, general infections, malformations, early sclerosis and other morbidities? We as physicians know all this and in our practices of many years we can select case after case giving evidence of these truths.

Then as physicians what can we do to remedy this evil? What can we do in the way of solving these problems in infant feeding that is taking from us so many of our babies? The answer is easy. We must have more breast-fed babies. We must teach the mother that she can nurse her baby and explain to her the difference in the baby's chances for living, and that actual contraindications for nursing are few. Less than 10 per cent. of mothers are positively disabled when facts are all known. In Japan breast-feeding is the rule. Among the Esquimaux of Alaska where there is no cows' milk to be fed we are told that infants often nurse two and three years. There is abundant evidence that where economic conditions call for the mother's milk, where it is the country's custom to nurse their young, there is no difficulty.

When we are presented with the question of taking the baby from the breast because of some fancied inability to nurse or inability on the part of the infant to digest its mother's milk, we should remember the fact that this can never be determined by a brief trial. It is only by prolonged and repeated, and again repeated efforts that we can reasonably conclude that it is necessary to put the baby on the bottle at all.

I think it is the physician's duty when he hands the new born babe into the mother's arms to carefully instruct her just how to nurse and manage her baby. She should be told the necessity of systematic and regular feedings and to not try to hush every cry believing it to be a cry of hunger, by putting the child to the breast, oftentimes the cry is because the baby already has too much in its stomach. The mother should be told about the baby's requirements for water and just how carefully this water should be prepared and just how carefully it should be given. The mother should be told about keeping the baby cool in hot weather and the necessity of giving it frequent baths. All these instructions are well worth while. They are highly appreciated by most mothers and will do good. It is preventive medicine and much better than cure. If, however, the error has already been committed and the baby is fretful or sick we must persevere in our efforts to correct the error or fault whatever it may be. If it is a lack of milk secretion we must revise the mother's diet and habits and relieve her anxiety. If the milk is of poor quality it may be made richer through dietetic measures. Oftentimes the breast which at

*Read before the Daviess County Medical Society.

first gives insufficient milk will later render an abundant supply and the infants' digestion at first much disturbed will after a while adjust itself perfectly. So we should never put the baby on the bottle because it is the easiest way out, nor because of willingness or eagerness of some mothers to wean their babies. There should be a clear indication for the bottle before we adopt it. We should not resort to it simply to be agreeable with mothers or for some trivial cause. There should be a real, unquestioned cause. I believe that the occasions when a baby should be weaned on account of some fault in the mother's milk are rare. It frequently takes some time for the baby's stomach to adjust itself to mother's milk and during this time more or less gastrointestinal trouble is bound to result. If the mother concludes that this is due to some imperfection in her milk and weans her baby on this account a great mistake is made. Often times the mother is influenced through the advice of some officious friend, perhaps a "Sarah Gamp," who maintains that she has raised thirteen children and for that reason should give advice (although she has lost seven of them). These officious friends should be sat upon.

If finally we decide that artificial feeding is necessary and the mother has a partial supply of milk, we should eagerly conserve every ounce of this breast milk and make it a case of so-called supplemental, or mixed feeding. There seems to be a vital element in breast milk even in small quantities that will assist the digestion and assimilation of modified cows' milk, there is nothing we can do for the infant that will approach it in value. It is priceless. I believe that mixed feeding, where properly carried out is next best to breast feeding for the infant. In some cases it is almost as beneficial. Hence, I protest against weaning the infant entirely from the breast because of insufficient supply of milk or even poor quality of milk or any other reason except some organic disease in the mother. Such as tuberculosis malignancy, mammary abscesses, etc. If the baby has already been started on the bottle at the mother's own initiative, or if it actually becomes necessary for the physician to start the baby on the bottle there is but one substitute for mother's milk and that is modified cows' milk, to meet the requirements of each individual baby. The proprietary foods that are dangled before the mother's eyes, exploiting their merits in extensive and expensive advertising in handsomely illustrated booklets and periodicals containing specific directions for preparing the food without ever consulting a physician, is a Will-o'-the-Wisp. They are not to be trusted as an exclusive food. No single one of them is capable of

meeting the requirements of a growing baby. Their composition is dried milk and some cereal. Most that can be said in their favor is their occasional use for a short time only to bridge over an emergency. Modified cows' milk is the food. Modified to imitate mother's milk. It is the only legitimate substitute. And that we may properly understand what this modification really means, we must know all about mother's milk and all about cows' milk. We must know their difference in fat, proteid and sugar. We must know just how much water to add and how much sugar to add in order to imitate or duplicate as nearly as possible the food elements as they are found in normal breast milk. We must maintain the correct percentage of fat, protein and sugar shown in mothers' milk and we must have a knowledge of the food value or the calories to be obtained from their combination in definite quantities and mixtures. We must know the caloric strength of milk and sugar, and how many caloric units per pound is necessary to sustain the growing child.

If we have these few simple facts well in hand, the arrangement of formulas for each individual case is a very easy matter. But without these facts the question of infant feeding becomes a matter of guess-work, or resorting to text-book formulas, which is a very unsatisfactory method.

The fact that many babies live through any and all kinds of feeding without any pretense to percentage combinations, or a knowledge that milk really contains fat, protein and sugar, or that cleanliness is necessary, or that there is such a thing as caloric units, is certainly no argument against scientific feeding. Such treatment to the weakly or sick baby means its death. This is the reason our infant mortality is so great.

For the general practitioner, coming in contact with all classes of people, the simple dilution of whole milk is the best method. It does away with the mathematics of top milk mixtures and separated cream mixtures, which is alright in laboratories but too complicated for home use.

To arraign our mixtures of whole milk to suit the individual case, we must know that one ounce of whole milk is equal to 21 caloric units, that one ounce of sugar is equal to 120 caloric units, and that to sustain the energy of a growing infant for the first twelve months it requires 40 calories for each pound in weight. Thus a child weighing 10 pounds would require 400 calories.

In arranging our formulas we must remember that the 4 per cent fat 4.5 per cent. sugar and 3.5 per cent. proteid found in cows' milk must be modified in a way to change these percentages to imitate mothers' milk ap-

proximately 3 per cent. fat, 6 per cent. sugar, and 1.7 per cent. proteid, (quoting Fulton). The dilutions should be made so many parts in 20. If 20 ounces of whole milk contains 4 per cent. fat, 4.5 per cent. sugar and 3.5 per cent. proteid, one ounce of milk will contain 1-20 of this amount which would be .2 per cent fat, .225 per cent sugar, .175 proteid. The above figures established it becomes an easy matter to bring the percentage to any desired point by increasing or decreasing the number of ounces of whole milk in 20. By a little mathematics the exact amount of sugar can be added to bring it up to the requisite 6 per cent. Now we have a mixture the exact percentages known, its exact caloric value known. We have absolute control of it. If it produces fat indigestion with vomiting, we can lower the fat per cent. If we have green fermenting stools we can lessen the sugar per cent. We can change the percentage up or down by adding or subtracting, an ounce of milk at a time, and successfully carry a sick baby through a gastro-intestinal crisis.

After we have settled on a formula for the individual case in hand, we must look to the purity and cleanliness of the milk. This is of the utmost importance. If the dairyman is watering his milk, its caloric value will be lessened and the baby will not get its quotient of nourishment. If the milk is unclean (as is usually the case when the dairy is not under official inspection, or if we do not know about its cleanliness, it should be pasteurized. However, if we are sure the milk is clean, coming from home cows under home supervision it may be used without this precaution. By pasteurization is meant bringing the milk to a temperature of 148 degrees F., and holding it at this temperature for 20 minutes and then placing it on ice. This will destroy all the pathogenic bacteria, not spore bearing. Pasteurization does not affect the chemistry of the milk no part of it is coagulated. It is as digestible as raw milk. Any temperature in excess of 148 degrees F., begins to coagulate albumins and caseine making it more difficult for the infant to digest. There is a vast difference between pasteurization and sterilization.

The home modification of milk pasteurized, and each nursing prepared in an individual bottle and served out of this bottle, assures the baby clean milk. It assures the baby the same quantity at each nursing and it assures the baby regularity in feeding. The average mother is more likely to be impressed with the importance of baby's feeding and follow the physician's directions, if the milk is pasteurized. The average mother is more likely to report immediately all dietetic disturbances in her baby, such as colic, vomiting, diarrhoea,

loss of weight or any other evidence of food disagreement, and the physician will then have the blessed opportunity of correcting the error before any real pathological conditions result. It means the saving of many little lives.

DYSMENORRHOEA CURED BY TREATING NOSE; WITH REPORT OF CASE.*

By D. M. GRIFFITH, Owensboro.

Relief from dysmenorrhoea in its varying degrees of severity by treatment of nose has of late aroused considerable interest both on the part of the rhinologist and gynecologist, and must be of special interest to the general practitioner, because such distressing cases come first under his care.

That a marked and manifest relation between the nose and the uterine organs existed has been known for many years, but only in the past several has it been definitely decided that there were areas in the nasal mucosa that become engorged at every period of uterine excitement.

These areas Fliess designated as the "genital spots" their locations are the tuberculum septi and erectile areas of the inferior turbinates. Mayer has cured 60 per cent. of his 93 cases, many of whom had had previous unsuccessful surgical measures such as dilatation and curettage.

Cases of dysmenorrhoea in individuals who have organic lesions of the pelvic organs are logically cured by treating the diseased organs. However, there are a great number of cases, which have no organic lesions, and which have failed to secure relief from all previous methods of treatment, and these cases can, in a great majority of instances secure a reasonable sure relief by proper treatment of the nose which embraces cauterizing, the genital spots. Those cases presenting that symptom-complex of premenstrual headache, nausea and colic at beginning of flow and which have decided disease of nose with blockage of same secure almost certain relief by this treatment.

In view of the great number of cases reported cured by the few men who have tried this treatment, it is impossible for any one to doubt the relationship between the nose and the sexual organs or doubt the immediate relief and permanent cure secured by this measure.

Brettauer reports immediate relief in over one half of his cases and permanent relief in over one-third and makes the following statement, "I consider this treatment of great

*Read before the Daviess County Medical Society.

value and one which should be resorted to in all cases of dismenorrhoea in which pelvic disease is absent."

Mayer reports 93 cases, from every walk of life, many who had nasal stenosis, many with engorged genital spots, many with enchondrosis and many without any apparent nasal disorder. He concluded as follows: "No relief in nineteen, fourteen were improved and forty-eight were cured, a cure total of 60 per cent. of the cases treated with benefit to a total of 75 per cent."

When I recall the extreme pallor and her expression of horror of the next approaching period and compare it with her lusty looks and facial expression free from pain and apprehension, I feel justified in this report.

N. J., age 19, referred by Dr. S. P. Oldham. For past five years has suffered most severe pain each month. Nausea, headache, cramps and great exhaustion accompanied each period. Was sick for a week, was confined to bed three or four days and was compelled to have morphine for relief. Upon examination between periods, I found the nose apparently normal. No enchondrosis or congestion of "genital spots" and free from tissue engorgement or blockage.

Since operation she has passed four periods absolutely free from pain and is now happy instead of helpless.

That operation and subsequent treatment have completely cured this patient can best be shown in her own words, "I suffered untold agony each month, now by flow is free and easy, my period ends in four days and I am perfectly free from pain."

While I realize that one swallow does not make a summer, still I beg to report this case that my one case may be added to the many reported by others.

Purulent Pericarditis.—Francini reports a case in a previously healthy woman of 18; the acute pericarditis was well under way when symptoms of acute articular rheumatism developed, contrary to the customary sequence. High fever, dyspnea and cyanosis had developed in the course of a few days, suggesting pneumonia until the signs of a large effusion in the pericardium became evident. Puncture revealed pus and the fifth costal cartilage was then resected, permitting access to the pericardium. Fully a pint of pus was evacuated and the wound was drained with a tube; this soon became obstructed and was replaced with a capillary drain which answered ideally the desired purpose. The patient was discharged completely cured by the end of a month. The diagnosis was facilitated by the shifting about of the fluid in the pericardium on change of position. The operation was done under a few whiffs of ether, Francini dreading possible complications with local anesthesia.

OUR ETHICS.*

By T. H. GAMBLIN, Monticello.

There are several resolutions that I started out with nearly twenty-five years ago, and I believe, gentlemen, that I have faithfully carried them out. First, to my medical brothers and patient, be just, and wrong not them. I believe from my heart that I can truthfully say this I have carried out during my whole professional life. I have tried to be just and honest to all mankind. If I saw myself not competent or in doubt, I lost no time in sending for one who was. I think it is a narrow spirit, indeed, that would not do this if necessary. It is painful to know that there are doctors who would try to take some dirty advantage of another in consultation, and in some way try to expose him. Gentlemen, I would rather my tongue cleave to the roof of my mouth, my arm be palsied at my side, than in the least betray a brother in consultation.

I have tried to keep a keen eye on myself. I never did misrepresent, willingly or with malice aforethought, a brother of my profession, and never allowed myself to be misled by idle gossip. It is said the world is given to lying—I do hate a liar—for his tongue is dangerous and as vile as *hell itself*. If I know him I will pass him as I would a rattlesnake. Men and women may come to you under cover of friendship and recite their damnable tales of gossip, knowing full well that there is no truth in them. When men come to me to tell some nauseous tale, what this or that one has said about me, I tell him to go to, to go to, and then turn a deaf ear for I do not like deceit or hypoeraey. This thing of doctors being at enmity with each other is a disgrace to the profession. This is a shameful condition of affairs and brings the profession into ridicule. Go to him and you will find upon investigation, that he has as much reason to be offended at you as you have at him, if he will not make up then let him go his way.

Now gentlemen, my brothers, I have this to say: that I have been called several times in consultation with a certain doctor; no doubt you have been almost forced to do the same thing, he does not claim to have any book learning, or to be much in anatomy, or any of the allied branches. I doubt not he knows whether the liver is in the abdominal cavity or in the chest.

I was once attending a very sick lady when it was suggested that they call in this doctor. Of course I consented. He came with specks on nose and listened attentively while I recited the history of the case and when I finished he said with great dignity: "Did you

* Read before the Wayne County Medical Society.

ever try a black cat-skin poultice in such a case?" In my ignorance, I confessed that I never had. I saw a good opportunity to escape from the case, so I told the family that the old doctor had known them so long that it would be best for him to take charge of the patient. They consented and I could see with a great deal of pleasure that that was an awful night on cats, especially on black cats. Of course the patient died, but he told them that if he had called a little sooner, and had succeeded in getting a little blacker cat, he could have saved her life.

It is a singular fact that men who have great business capacity will, if a member of the family is sick near unto death, employ the worst of quacks or the loudest mouthed charlatans. This is a mystery past finding out.

You need not say to me that the true doctor is selfish or devoid of sympathy for we who are engaged in the same laudable, merciful calling could be otherwise, you may talk of the ties that bind other professions together, but I feel that the fraternity that does exist in the medical profession out-shines them all. Let your child or yourself be stricken at midnight with some fearful malady, and though the night is dark and the storm rages without, our brother physician will come to you though drenched with rain or pelted with hailstones. Then say to me that doctors are selfish or devoid of sympathy. Such a thing is unknown.

SOME FUNCTIONS OF THE ADRENALS AND THE THYROIDS.*

By GEO. J. HERMANN, Newport.

As we have noted adrenal preparations—extracts, the powdered gland and the active principle such as epiniphrin, supracapsulin, adrenalin, etc., cause a rise in blood pressure with a slowing of the heart beat, a minute dose suffices to produce a marked effect but the effects produced by such extracts are quite temporary in character.

In the course of a few minutes the blood pressure returns to normal as also the heart-beat, showing that the substance has been in some way destroyed in the body, but how and where this destruction occurs we do not know.

The first question of importance then is: What is the fate of the adrenal substance? Adrenal preparations are all endowed with an oxidizing power, and yet we have seen that it is a reducing agent.

How can we account for this anomaly. The secretion of the adrenals has a marked affinity for oxygen and inevitably reaches the pulmonary air cells.

That the adrenal secretion reaches the air cells directly has been proven conclusively by the fact that the vein from the adrenals pass directly into the inferior vena cava and thence to the right side of the heart and from there to the lungs.

On reaching the air cells the adrenal secretion absorbs oxygen and becomes a constituent of haemoglobin and of the red blood corpuscles. It is the adrenal secretion which after absorbing oxygen from the pulmonary air and being taken up by the red corpuscles supplies the whole organism including the blood with its oxygen.

It is as such the oxidizing constituent of the haemoglobin, which in turn sustains tissue oxidation and metabolism. That the suprarenals are related in some way to metabolic changes in the tissues and organs, there can be but little doubt. This is indicated by the symptoms of Addison's disease.

Addison's disease may be due as is well known, to tuberculosis, cancer, cirrhosis and other organic disorders of the adrenals or to a pathological change in the solar plexus or semi-lunar ganglion, but how these lesions cause the Addisonian syndrome in all its complexity we do not know.

In its relations to general diseases, the identity of the adrenals as the controlling agents of oxidation accounts for that ubiquitous symptom (fever) the mechanism of which has also remained obscure. This gives these organs a prominent place in pathology. Indeed, if the modern doctrine that fever up to a certain limit is the outward expression of an auto-protecture or immunizing process is sound and the bulk of evidence strongly sustain this view, the adrenals as direct factors in fever become also direct factors in protecting the body against disease.

Their role in the economy thus assumes noble proportions in the extreme, since by their influence of tissue oxidation they sustain life while through their participation in immunity they defend.

Closely related to the suprarenals in some manner is the parathyroid apparatus. The "hormone" from the Greek "to arouse or excite" is a name given to any substance originating in any one organ and capable of stimulating another to action.

The internal secretions being included among the harmones, we can state that the harmones produced by the thyroid apparatus are capable of stimulating the adrenals.

That the thyroid secretion does not serve only for this purpose, however, is suggested by the fact that it is a component of the blood at large. We can only, therefore, look upon the exciting effect upon the adrenals as an incidental feature of a general function. The

*Read before the Campbell-Kenton County Medical Society.

thyroid product according to Oswald is an iodized globulin, this globulin being the albuminous constituent of the haemoglobin, also the action of the thyroid secretion resembles that of an organized ferment.

It has been shown that the product of the thyroid passes into the perivascular lymph spaces, being then transformed to the larger cervical lymphatics and from there it is discharged into the thoracic duct and from there into the subclavian veins and by way of the superior vena cava into the right side of the heart and thence to the lungs.

As the venous blood carrying the adrenal secretion passes from below to these organs to be oxygenized, so is the thyroid secretion carried from above to the air cells, so much for how the products of these organs reach the general circulation.

The thyroid constituent of the haemoglobin enhances oxidation by increasing as a ferment the vulnerability of the phosphorus which all cells, particularly their nuclei, contain.

The simultaneous presence of iodine and phosphorus in the nuclei coupled with the presence of iodine in the red corpuscles suggests the nature of the processes carried on in the cells. This action is strikingly shown by the fact that iodine and the active constituent of the thyroid secretion and its salts, cause excessive elimination of phosphates and phosphoric acid and that thyroid preparations act in the same way.

The nutward effect of large doses of thyroid preparations on the nervous system, is thus accounted for, owing to the wealth of phosphorus and fat it contains, this is manifest by tremor, tachycardia, neuritis and the disturbance in the vascular system. A familiar action of the thyroid preparation is a rapid reduction of fat in obese subjects when full doses are administered.

Another function of the thyroid secretion is to increase the germicidal and antitoxic power of the blood by endowing the albuminous part of the haemoglobin with sensitizing properties, and as such it is the blood constituent which Sir A. E. Wright has termed opsonin.

The thyroid secretion and the thyroid preparations used therapeutically act by increasing the sensitiveness of the phosphorus in all cells, particularly their nuclei to the oxidizing agent of the adrenals and this enhances metabolism and nutrition. They also in virtue of this action augment the autoprotective or immunizing power of the blood, by increasing the sensitiveness (as opsonin) of all bacteria, forth, that contain phosphorus to oxidation their toxins, endotoxins, toxic wastes and so and thereby to the digestive or destructive

action of the complaint both in the blood and in its phagocytes.

Turro, the Italian physiologist by experiment found that the thyroid of the swine and sheep were capable of dissolving almost entirely the comma, the typhoid and anthrax bacillus, also the bacillus coli and the streptococcus.

By way of laboratory experiments I wish to cite you but one of very recent date made by Prof. Alfred Kohn of the University of Prague.

He experimented upon tadpoles by feeding them the thyroid extract and the thymus extract and produced at will giants and dwarfs.

The most striking and at the same time unquestionable results were attained by thyroid feeding. The influence of thyroid food was such that it stopped growth but hastened development, it accelerated the differentiation of the body immensely and brought it to a premature end. The suppression of growth was merely the consequence of the precocious development.

As soon as the thyroid food was given the differentiation of the body began and the outcome of such precocious development was dwarfism.

The influence of the thymus diet on the tadpoles was as evident as that of the thyroid but in the opposite direction. The thymus food caused an accelerated growth beyond the normal (giant tadpoles) and at the same time it retarded or completely suppressed the differentiation of body.

The thyroid and thymus diets were thus diametrically opposite in their influences. One produced giants and the other dwarfs. The physiologists of to-day are standing upon the threshold of a new era and may be likened unto Sir Isaac Newton when he discovered the law of gravitation while standing upon the ocean beach, he picked up a pretty pebble much whiter, smoother, and clearer, yet the whole ocean of truth lies undiscovered before him.

Gentlemen the internist can go only as fast as the physiologist will allow him.

Acetone Substances in the Blood.—A revised technic for the determination of acetone bodies in small samples of blood is described by Marriott. He says that the blood of normal human subjects, and of dogs, pigs and cattle contains less than 1.5 mgm. of acetoacetic acid and less than 4 mgm. of butyric acid per 100 grams of blood, the results being expressed in terms of acetone. In acidosis the acetone bodies in the blood are higher than normal. The highest figure obtained was 28 mgm. of acetoacetic acid and 45 mgm. of oxybutyric acid per 10 grams of blood, expressed as acetone.

FECUNDATION, CONCEPTION AND GESTATION.*

By W. E. REYNOLDS, Hopkinsville.

In order to better explain or present this part of my paper we will make a difference in fecundation and conception. While some writers claim that the words mean practically the same and may so be considered, so far as vitalization is concerned.

Now fecundation is when the ovum comes in contact with the spermatozoa and is vitalized, but without proper conditions of the field of contact we can't have conception as I will better explain hereafter.

There has been some difference of opinion in impregnation. When, where, and how the ovum is vitalized. The older writers endeavored to prove this took place in the ovaries, others in the fallopian tubes and upper third of the uterus: I believe that it is generally conceded that it can take place anywhere, all things being favorable. I will not attempt to burden my paper with what has been written on this part of the subject, further than to prove some of the absurdities and impossibilities.

It is believed by a good many that impregnation can take place at any stage of the menstruation, either before, after and during the flow, limiting the time at about ten days before and after.

It is necessary for us to keep in mind the cause of this flow; the ripening of the ovum, causing congestion hyperemia and exfoliation of mucous membrane; with the discharge of blood prior to the exit of the ovum through the Fallopian tubes. However there has been a question as regards the exfoliation of mucous membrane: That only the epithelial membrane is cast off otherwise we would have membranous menstruation, difficult and painful. And as this is a part of vital importance in our subject, I wish to present a few plausible remarks.

In the first place we can not have the amount of flow of blood with only the removal of the epithelial membrane. Because the small capillaries are undisturbed and until they are exposed we can't have a hemorrhage. And again it is impossible to have an attachment of anything to a mucous membrane. Hence the trouble in curing a fistula in ano. If you will keep the mucous out of the canal, the fistula will get well with but very little trouble.) So in order to harmonize the flow of blood and membranous menstruations; we believe the idea is plain that we have a superabundance of blood in the parts consequently a disintegration of the mucous membrane: as it

were, small particles of membranes are pushed off; not the entire membrane as we have in membranous menstruation but small particles; hence we have a slight flow at one time and at other times more, owing to the amount of congestion and amount of particles of membranes exfoliated. This, gentlemen, accounts for the flow and also leaves an open, clear field for attachment of impregnation.

Next, and after the flow partly subsides, we have the ovum making its way to the uterus, by the peristaltic action of the muscles of the Fallopian tubes assisted by the uterine manipulations in discharging the remaining contents of a serosanguineous consistency, which offers, as it were, a pathway or medium by which the spermatozoa gains access to the uterine cavity. These being in a vivid condition the healthy ovum is here surrounded by the spermatozoa forming a culture media for the immediate integration, and conception with the various changes and formations of membranes before it may be properly called an embryo. For these changes I will not rewrite as there are no special differences of opinion as regards their changes. My object being to try to establish the fact that conception can not take place on a mucous membrane any more than a vivid surface can adhere to a mucous surface. Then this being a fact, the theory of the spermatozoa being carried to the uterine cavity by the movements of the villi is a mistake, and if it was placed around the ovum on a mucous surface we could only have integration or fecundation of the ovum, or in other words, we would have the ovum surrounded by the spermatozoa and vitalized, but having no suitable field of contact; that is a vivid surface, we would not have conception consequently the fecundated ovum would perish in its own culture media and would be considered a false conception such as moles, hydatids, etc.

I think the idea of the semen being carried to the interior of the uterus by the movements of the villi (when it has been demonstrated that the movement is towards the outlet) is too unreasonable and absurd for a fair minded man to entertain. But grant this to be true, I would ask what would become of all the semen if carried into the womb by this process. According to this theory I see no chance for the semen to pass away only at the menstrual periods, and I dare say some ladies would have quite a burden to take care of the amount they would have from one period to the other. And besides we would have conception taking place in the Fallopian tubes more often than anywhere else, from the fact that the spermatozoa would be ready in an abundance to vitalize the ovum immediately after rupture of the ovary. Or if the semen should become as a foreign substance which

*Read before the Hopkinsville Academy of Medicine.

necessarily would be the case, then we would have disease continuously.

Now my theory is; we can not have conception during the menstrual flow because the semen is washed out, and besides as soon as the blood begins to diminish we have excreted by the uterus, before the mucous membrane forms, a thin watery alkaline fluid or serum which is a culture media and a lead from the external vagina to the internal cavity of the uterus. As such, if the semen is deposited within the vulva it meets a medium to traverse until it comes in contact with the ovum and at no other time or any other way can the semen enter the uterus. If this was not true then we could have the mucous membrane of the vagina impregnated. Why not?

Then to account for this phenomena, nature in its alwise creation has provided a period of 28 days by which an ovum has developed through the various changes of the graffian vesicles, causing hyperemia and disintegration of mucous membrane, with a flow of blood and lastly serum, the source of transportation for the spermatozoa with their vermicular movements to the inner portion of the uterus, whereby this time, they meet the ovum and fecundation is the result. And if the mucous membrane has not formed (which it never does) we have conception. So the serum and temperature of the uterus stands in the same relation to the ovum as the same temperature and moisture does to the egg of a fowl. The egg may be vitalized or fecundated but without proper moisture and heat we can never have a hatch.

This ends the theory of fecundation and conception as I see it and is that part of the subject that is no concern of ours further than to have a knowledge of the phenomena.

Next is gestation. This brings us into a field of duty preparatory to the great battle of life, which should interest every physician who proposes to attend a case of labor.

We have many changes of membranes as well as in the embryo, but the first thing that confronts us is, the patient? We will mention some of the most prominent symptoms: suppression of the menses, sick stomach, breast increase in size, areolae around nipple becomes dark, follicles more developed, kyestein in urine from early period, bloatment about the eighteenth week, if head is presenting, also sound of foetal heart, placental souffle, movement of the foetus perceptible to mother about the sixteenth or seventeenth week, neck of uterus diminishes in length at advance stage, leucorrhoeal discharges, an infallible sign is microscopical changes in the urine. We may be mistaken with prominent symptoms, the mother who has had four or five children may be mistaken when she declares

she has felt the fetus kick, when she would be seven or eight months in pregnancy.

However, we conclude our patient is pregnant and proceed to direct her as the many troubles may come up. The first and most frequent trouble is sick stomach. For the treatment, I have nothing special to offer more than has been written on this subject, except keep on trying something; make her think you are doing something to relieve her, or the patient may get into the care of another physician and if she should get relieved in spite of everything the doctor could do, she would give him credit to your discredit, which of course this doctor would not try to correct. Threatened abortion, false conception, as moles, hydatids, disease of the placenta as dropsical conditions, also of the cord and diseases of the foetus, which may give us quite a lot of trouble and anxiety. Every case has its own individual treatment but most frequently it ends in a case of abortion or premature labor.

Deformities might call for treatment, but this is of such length that we will not attempt to discuss it here.

Our attention should be mostly directed to the complaints of the mother, such as headaches, nausea, vertigo, dimness of vision. These should be looked after at once or we may have convulsions or premature birth of a dead baby. This may occur often at about the fourth or fifth month most frequently, and at every pregnancy thereafter unless prevented, without very alarming symptoms. These symptoms should necessitate an examination of the patient's urine, but I have often made the examination and found the urine perfectly normal. But with any head symptoms, or if I have no reference to uremic trouble further than a number of abortions or premature labors, I go to treating my patient for uremic conditions, and I hit it nine times out of ten. The most simple and best treatment I ever gave is epsom salts and cream of tartar, one teaspoonful of salts and one-fourth spoonful of tartar in half a glass of water, three times a day until oedematous conditions are gone.

In uremic troubles if you fail to have convulsions you may have post-partum hemorrhage. Invariably uremic patients either have a long tedious labor and hemorrhage, or convulsions, or it may be a very quick labor with possibly laceration.

Next, and a very much neglected treatment, is massaging the abdominal muscles. This helps to relieve all soreness, strengthening the muscles in their functions for supporting the infant in utero as well as in muscular contractions during labor. We might mention here the care of the breasts, before delivery.

Much can be done to prevent abscess and soreness and tenderness of the nipples by massaging the breasts and bathing the nipples in borax or alum water. By close attention we might remedy many serious troubles, such as cross presentations, and other bad presentations, and be better prepared for the occasion. Also placenta-*previa*, this might be better treated if taken in time. We can do a very good work by advising our patient in her everyday avocations of life, and out of doors exercise, regulate habits and a word of encouragement occasionally adds much consolation to the patient and is evidence of your sympathy, if no more. I think a lady should be kept in a tranquil state of mind, unexcited by fear or ill temper. This temperament of the mother has very much to do with the nervousness and temper of the child. Advise with your patient about her troubles and often you may find out things of great importance by asking, that she would often neglect to speak of. To be interested in your patient will increase her confidence which is a great factor in labor. While a great deal more can be said on this subject of much interest, yet I feel it is time to bring this skirmish along the lines of gestation to a close, preparatory to the great battle of life.

CHRONIC INTESTINAL STASIS; ITS CAUSES AND RELIEF.*

By J. EDWARD PIRRUNG, Covington.

By chronic intestinal stasis I mean the continued delay or inhibition to the passage of the intestinal contents. This together with the excessive absorption from the intestinal tract of bacterial end products, and other effete matter, the results of fermentations in the bowel, gives us the condition known as "intestinal intoxication." This toxic material circulating in the blood and lymph vessels of the patient, gives rise to varied symptoms. The symptoms are due to the interference with the function of the several glands and organs in the body. Failure on the part of the emunctories to eliminate all, or a part, of these poisons from the body of the patient, may lead to diseases from which no tissue in the body seems exempt.

The time of retention of the faeces within the intestinal tract varies, and failure to have a daily bowel movement is not an infirmity in all persons. Some people enjoy excellent health in whom a bowel movement occurs only every three or four days, while others are constipated unless they have one or two movements daily. We should remember that un-

less the retention of faeces within the intestinal tract causes troubles through delay, distentions and absorption, that it cannot be considered abnormal.

The causes of colonic and intestinal stasis may be classed as general or local. Some of the general causes are age, sex, heredity, diseases, dietary, sedentary occupations, digestive disorders, circulatory and chronic diseases, diseases of the blood, liver, stomach and intestines or of the nervous system.

Local causes are weakness of the abdominal muscles, failing to give the normal external support and compression of the viscera, changed intra-abdominal pressure, atony of the musculature of the bowels, dilatations of the colon (congenital or acquired), enterospasm, narrowing or strictures, foreign bodies, faecal impactions, pressure from tumors of the uterus, liver, spleen, pancreas, kidney or ovary or from pressure of a gravid uterus. A stone in the bladder or a fissure or fistula in ano, may be the cause.

Women are afflicted more often than men because of their inactivities. Poorly nourished shop girls, and women who have had repeated pregnancies, seem predisposed. Some observers seem to think that unmarried females are more likely to become victims of stasis than their married sisters. Sedentary occupations, tight lacing, the upright position continually through the day, tends to weaken the general musculature which in turn predisposes to atony of the musculature in the bowel. From the surgeon's standpoint, the most important local causes are those due to adhesions, false mesenteries about the bowel or a prolapsus of different portions of the bowel. The location of these adhesions varies, many are found about the caecum and ascending colon. Others extend about the hepatic flexure of the colon. Some of them fix the sigmoid laterally to the abdominal wall. The appendix is involved to a greater or lesser extent in all of these adhesions that occur on the right side of the abdomen. Many views are held as to the causes of these adhesions. Sir William Lane believes them to be a crystallization of the lines of strain developed to overcome the dropping of the viscera.

Jackson has described these adhesions under the name of "Membranous Pericolitis." He does not attempt an explanation of their cause. Jackson's membrane is that mold which spreads over the anterior surface of the ascending colon and caecum. It has numerous blood vessels and has attachments to the parietal peritoneum.

Binnie considers these adhesions to be due to a primary pericolitis.

Hoffmeister as due to inflammation. He (Hoffmeister) reports ten cases in which he

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found the tricocephalus dispar present.

Chas. Mayo believes them to be due to a developmental error caused by a late rotation and descent of the caecum from the hepatic flexure.

John G. Clark thinks they are congenital.

J. Rilus Eastman considers many of them to be developmental errors, others bacterial the result of a colitis.

Douglass G. Reid, of the University of Cambridge, England, has written recently of these membranes. He considers them from an embryologic standpoint. They are spoken of as ileo colic folds, ileo mesenteric folds, eauli, Jonesco membrane or the "bloodless fold of Treves." That band extending from the mesentery of the ileum to the ovary and tube, he calls the "genito-mesenteric fold."

Prof. Keith, Curator of the Museum of the Royal College of Surgeons, England, says that during the third, fourth and fifth months of foetal life, a profuse adhesive process sets in, a regulated peritonitis, he recognizes a certain amount as normal, but says not all are embryological errors. "Jaekson membranes" the kinks, and fixations of appendix are abnormal. Spasms of the ileo-caecal valve as a cause of stasis was suggested first by Hertz, and later by Case, who termed the condition ileo-caecal valve incompetence.

If there is any bacteriology of these membranes it is unknown. Therefore I shall not attempt a bacteriologic explanation. Now we shall consider the different locations and causes of prolapse of the intestines. Ptosis is the result of the slowing of the current, (stasis) this causes an overloading of the bowel with an increase in the contents. This weight continuing causes a complete loss, or a weakening of the support through the stretching and breaking of the mesenteries. Absorption of toxins causes lowered nutrition, a loss of fat and weakened musculature, together with changed intra-abdominal pressure, is another factor in the prolapse of the colon and stomach. Briefly, then, these organs drop because of the loss in tone, and increased weight and lessened supports dragging upon their fixed points. They cause acute angulations, adhesions and narrowing of the lumen. The earliest change occurs within the caecum. It becomes elongated, occupying the true pelvis, and crowds upon the viscera contained therein. The fixations of the ileum at the ileo-coecal junction supports the heavy dragging caecum, causes an acute angulation of the ileum. "The Lane kink of the Ileum."

The adhesions about the ileum compress and fix the appendix in many of these cases, giving rise to symptoms simulating appendi-

citis. The next part of the colon in which obstructions, adhesions, and kinking occur are at the hepatic and splenic flexures. These are caused by a loaded transverse colon dragging upon the meso-colon and the great omentum. The colon descends and in the extreme cases it rests upon the uterus causing displacements of that organ. Adhesions also occur between the prolapsed loops of the transverse colon, causing a diminution in their caliber. The descending limb of the loop of the prolapsed transverse colon becomes adherent to the ascending colon, and the ascending limb of the loop becomes adherent to the descending colon. This condition is spoken of by the X-ray photographers as "double barrelled" colon. Thinning, narrowing and lengthening of the colon walls occur, causing great delay and hinderance to the onward passage of its contents. A farther continuation of the traction upon the great omentum causes displacements and distention changes within the stomach. Many cases of stomach trouble have their origin in "intestinal stasis."

The sigmoid loop may also show abnormal adhesions similar in nature to those described at the caecum and ileum. Finally, in extreme cases of stasis and ptosis the caecum, transverse colon and the sigmoid may all be down in the pelvis adherent to and crowding each other, displacing and compressing the pelvic viscera.

The symptoms of stasis and ptosis may be slight or severe, varying according to the amount of stasis present. The case will depend in a great measure upon the amount of the absorption of toxins. You must also consider the amount of toxemia that can be overcome by the organism, or that which is eliminated by the emunctories. Cases of uncomplicated ptosis without adhesions or stasis may cause little or no trouble. Contrarywise many cases of a moderate degree of ptosis in which the bowel is adherent and in which case the stasis is marked, will give grave symptoms.

Some of the symptoms of intestinal stasis are depression of spirits, melancholia, loss of energy, headache and backache. On the part of the intestinal tract, abdominal distentions, vague abdominal pains, nausea, coated tongue, bad breath, loss of appetite, colic, biliousness, and vomiting are of frequent occurrence. Foul skin secretions, skin stainings, skin eruptions, and urticarias occur on the surface of the body. A persistent lowered and depressed condition of the circulatory system, causes cold hands and cold feet.

The diagnosis of these cases requires careful inquiry into their past history, and thorough examinations of all of the organs and secretions of the body. The greatest aid in

diagnosis will come from X-ray examinations repeatedly made. X-ray examinations are not made to determine the location of the bowels as much as to find out just how much function there is present. The X-ray in itself is not conclusive, however it is very valuable. You must depend on the clinical symptoms for final decision and merits of each case. Many of these cases have had a long history of medical and surgical treatment without relief, medically, neurasthenia, colitis, or stomach trouble. Surgically, operations for appendicitis, oophoritis, gastric or duodenal ulcer.

Medical treatment to be of any value should begin early and should be directed toward preventing the constipation habit. Once ptosis occurs—and I mean by that ptosis, adhesions and stasis—medicine will do little good.

The important points to bear in mind in the consideration of the surgical treatment of ptosis and chronic constipation are as follows:

1. The character of the changes in the bowel itself, as kinks, angulations, and obstructions.

2. The changes in the tissues round about the bowel as the development of false mesenteries and peritoneal adhesions.

3. The locations of changes in the bowel, that is, what part of the bowel is most frequently affected.

4. The changes in position of the large bowel—the ptosis.

Treatment directed toward the relief of the ptosis of the transverse colon alone will not suffice, but should have for its aim the cure of the symptom complex described as chronic intestinal stasis. Sir. William Lane says: "In no circumstance should operative interference be contemplated until the surgeon has satisfied himself that every other means of treatment have failed, whether medically or mechanically." This does not mean that one should persist with braces, abdominal massage, exercise, cathartics, and enemas, but if within a reasonable time patients suffering from this condition do not improve, then an operation should be advised. We are not justified in allowing our cases to become constipated, intoxicated and neurasthenic women. These are the end results if medical treatment is persisted in for too long a time. I should place as a time limit three months of conscientious medical treatment, and after that, in my judgment, the case clearly indicates operative interference.

In a surgical sense these cases naturally fall into the following groups:

1. The cases in which there are not as yet many pathological changes. The sigmoid or caecum may be prolapsed. There may be

present kinks, and some adhesions, a retro-caecal appendix or an appendical adhesion may be the offender. The bowel itself has undergone no great changes. In this group a simple division of the bands removing the appendix and relieving the kinks together with a few fixation sutures in the caecum or meso sigmoid many times suffice.

In the second group we have the picture above described plus this feature added thereto. The transverse colon has a ptosis of a considerable degree, but is not as yet much involved by adhesions. In this class of cases the simple operations as described above (ceceopexy and sigmoidopexy) will alone not suffice; our operation must also be planned for the relief of the dragging transverse colon. In addition to ceceopexy and sigmoidopexy, an operation fixing the transverse colon and the great omentum will be necessary.

In groups one and two the appendix should always be removed. If the stomach is prolapsed or distended, a fixation after the manner advocated by Rousing is to be advised.

The third group of cases comprises those in which stasis of long standing is present. The colon is much distorted, its walls lengthened and adherent and its lumen is narrowed, its longitudinal bands and the sacculi have disappeared (because of the long and repeated weight bearing). Its mesentery is also much stretched. There is marked ptosis and dragging of the large bowel on all its fixed points. The transverse colon, sigmoid and caecum are down into the pelvis adherent and crowding upon each other. In this class of cases cure of the condition depends upon the reestablishment of thorough drainage of the whole intestinal tract. It is folly to try to replace a colon thus prolapsed, bound down and at the seat of such gross pathological changes by an operation of colonopexy, or by any other pexy. In my opinion such a bowel can never regain its normal tone or resume its functions. In these cases ileo-colostomy, caeco sigmoidostomy or colectomy partial or complete is to be advised. A primary removal of the colon is not advocated, nor is it advisable to remove part of it at the first operation. Short circuit first, get your patient in good condition by rest and feeding, and then, if no permanent improvement ensues, carry out the more radical procedure of excision of the colon. In the majority of the cases it will be found that the second or radical excision with its much greater surgical risk, will be obviated. The mortality of the radical operation of excision would be much greater if it were done when these cases were weak and toxic, hence the proposal of delay.

TECHNIQUE OF THE OPERATION OF ILEO-SIGMOIDOSTOMY.

"The abdomen is opened in the median line and the viscera examined. The edges of the incision are protected by wet sterile towels. The ileum and sigmoid are then identified. Adhesions above the sigmoid are left alone unless they interfere with the approximation of the gut. Double clamps are then placed upon the ileum, which is then divided by the cautery about six inches from the ileo-cecal valve.

The blind end of the ileum is then closed by a purse-string suture. The terminal portion of the ileum is then brought in approximation with the lower sigmoid and an end to end anastomosis is made. Finally, a fine gut ligature is passed through the free margin of the incised mesentery of the ileum and then beneath the peritoneum forming the outer wall of the meso-sigmoid; this, when made tight, brings the sigmoid to the middle line of the pelvis and fixes it securely in that situation immediately beneath the position occupied normally by the divided ends of the ileum. The ligatures also close the interval between the two mesenteries through which a loop of the bowel might otherwise pass and give trouble." (Lane.) The rest in bed following the operation, together with the elimination of the factor of the weight of the elongated and heavy transverse colon, allows the stomach to regain its normal position. "Gastroenterostomy is not indicated unless it be purely of a mechanical nature." (Lane).

Cæco-sigmoidostomy anastomosis between the head of the cæcum and pelvic colon.

The following objections have been raised against the operation of ileo-sigmoidostomy and colectomy.

1. Because it is a formidable operation. This I believe to be true; however, it is justified by the results obtained. It is only advised in extreme cases.

2. Because of liquid stools patients will have no control. This is not the case. These patients have very good control, and have three or four stools a day.

3. Because the frequent liquid stools and the removal of the drying influences of the cæcum thirst would supervene. This we are also assured by the patients is not the case.

The above are about all of the objections that have been offered to this operation and I think that I have answered these. We have still to consider a certain number of cases, small though they be, which have not been permanently benefited by the operation of ileo-sigmoidostomy. In these cases a later operation of excision of the colon will be required.

The method of excision of the colon are the

same as that done for malignant disease. I shall not burden you with a description of that procedure. In such cases of stasis that require excision of the colon an end to end or a lateral anastomosis may be made. On account of the difference in size of the gut I should advise the latter. So important is this condition and so uncertain are some of the symptoms presented that in all operations for so-called "Chronic Appendicitis" I should advise a right rectus incision in order that a more thorough examination of the whole viscera may be made.

What are the results of these operations you may ask. All of these cases have shown an immediate gain in weight and disappearance of all toxic symptoms after ileo-sigmoidostomy. You may ask what becomes of the colon thus isolated. Lane and other's experiences has shown that when a low anastomosis into the pelvic colon has been properly made no fecal matter will be carried past that portion of the bowel into the colon.

I might here give the results in a few cases to show you the value of these several operations.

Case 1. Cholecotomy for chronic intestinal stasis obstruction in the sigmoid and back flow into the colon after an ileo-sigmoidostomy (short circuit).

Miss M. W., age 28, typist, had an ileo-sigmoidostomy performed by another surgeon in November, 1912. Improvement was immediate and she gained considerable in weight and strength, her toxic symptoms disappearing. In Feb. 1913 she complained of distentions in the region of the cæcum. Examination by her physician at that time revealed a mass (which was said to be faeces) in the cæcum. Her condition grew worse and in March, 1913, she first came under my care. She had obstructive symptoms, was thoroughly toxic, passed only four ounces of urine in the previous twenty-four hours and was in a very bad shape. The patient was sent to the hospital and given enormous quantities of water to drink and Fisher's solution per rectum. Very large doses of liquid paraffine were given per os. The liquid paraffine cleared her bowels, the fluid flushed out and cleaned up her toxic symptoms so that after four days in the hospital I decided to remove her colon. The colon, six inches of the terminal ilium and a part of the upper sigmoid was removed. No great difficulty was encountered during the operation and the patient made a complete and uneventful recovery save for the usual amount of pain that goes with removal of a large area of intestine. Her urinary output has again come up to 40 to 50 ounces per diem, she now has two movements of the bowels daily. Control of bowel is perfect, stools formed and semi-solid.

Pathologic Examination. The colon walls were thin and stretched, the sacula had disappeared and the longitudinal bands were stretched and thinned out of all proportions. At operation there was no fecal matter in the caecum, transverse or ascending colon. There was fecal matter in the upper sigmoid. The obstruction was due to adhesions. Her present condition, eighteen months after operation, is very satisfactory. She has gained 30 pounds in weight, her bowels move twice a day, she sleeps well, and she is now enjoying good health, for the first time in many years.

Case II. Perforated duodenal ulcer. Consequent upon "chronic intestinal stasis." (Ulcer the result of stasis).

Miss M. L., tailoress, age 36 years, stricken at work with sudden and severe pain in the epigastrium. The pain was of an agonizing, lancinating character, patient vomited but once, the vomitus contained no blood. I saw her within 30 minutes of the onset of pain and her condition was that of extreme shock. The abdominal muscles were board-like, no particular points of tenderness could be elicited, no dullness or unusual distentions could be determined at that time. The pain was so severe and the collapse so marked that I immediately gave her an hypodermic of digitalin 1-50, Strychnin 1-60, morphin, gr. 1-3. Her fellow workers volunteered the information that she had been obstinately constipated for months and years, recently whatever she ate disagreed with her, even water was painful to her stomach. Later, the patient said that she had never previously vomited, but she was always constipated and had had stomach trouble. Diagnosis of perforated ulcer of the stomach or duodenum was made and patient was sent to the hospital. Duodenum was considered most likely at fault because of history of distention and other evidences of marked stomach trouble and intestinal stasis. Patient had lost 35 pounds in the past year. Her arteries were unusually hard, her skin yellow, sallow and stained, headache and backache had been of frequent occurrence. She was prematurely gray. She said that she had been miserable for years because of her bowels. On Sundays she had naught to do but go to church early in the morning and spend the remainder of the day in efforts to move her bowels. This procedure usually required the aid of three to four ounces of castor oil, or a saline. She occasionally resorted to enemas of soap water. The operation was performed three hours after perforation. Hedonal, intravenous, as an anesthetic, was used, a right rectus incision was made, it extended from just below the right rib margin to an inch below the navel. When the peritoneum was opened the whitish, milky intes-

tinal contents were scattered throughout the peritoneal cavity. There was ptosis and stasis of the colon, the terminal ileum was distended, there was marked thickening, induration and distentions of the duodenum. The ulcer was duodenal and was perforated. The situation of the ulcer was on the anterior surface of the duodenum. The size was that of the tip of the little finger. It was rounded, clean cut and had attached to its superior margin a tag of omentum. The peritoneal cavity was hastily cleaned while an assistant plugged the opening with gauze. The ulcer was closed by sutures (two layers) of linen. Tube drainage was left in the lower angle of the original incision. Her condition at the end of operation (anesthetic of 30 minutes) was as good as when operation was commenced. There was no post operative nausea or vomiting. In November 1913, one year later, patient again complaining of constipation and stomach trouble, she was advised to have short circuit or colectomy, but refused. In April, 1914, she had obstruction at the pyloric end of the stomach, had lost fifty pounds, her weight is 81 pounds. Her height is six feet, one inch. An operation was advised and a gastroenterostomy was done. She was very weak after operation, failing to recover, she died on the fifth day after operation. A short circuit or colectomy was not attempted because of patient's condition. Had she been operated on before her pyloric obstruction and before she was starved she would have had a chance for the full operation and recovery.

Case III. Perforated duodenal ulcer from stasis: Mr. L. B., age 30, toolmaker. Well developed and nourished, 5 feet 6 inches high, weight 135 pounds. Stricken at work with sudden and severe pain in upper abdomen; pain was of an agonizing and lancinating character; no vomiting. I saw him within 30 minutes of onset of pain. He gave a history of three weeks' stomach trouble, never had had stomach trouble previously. Had consulted no doctor previously; he said that pain would occur shortly after eating and that pain would disappear or be relieved by movement of bowels or by a physic. For several years past was troubled with obstinate constipation. He always felt better when he took a laxative or a purge of Epsom salts. A diagnosis of perforated duodenal ulcer from stasis was made. The patient was sent in the police patrol to the hospital and an immediate operation was performed. The ulcer was duodenal and was perforated. It was situated upon the anterior surface of the duodenum. The opening was the size of a small lead pencil. Gas and intestinal contents flowed freely from its opening. The ulcer was bleeding, just a slight

oozing from its edge. The peritoneal cavity was cleared, the ulcer edge was stretched and freshened by dilating with a forcep. It was then closed by two layers of linen suture. Drainage was placed in the lower angle of the original incision (which with me is always a right-rectus incision). His condition at the end of operation (30 minutes) was good. Operation was done two hours after perforation. The after care has been an abdominal belt with a pad under the umbilicus, liquid paraffine, vegetable diet, plenty of fruit, and liquids, exercise, rest after meals. One year after operation he is well and strong.

Case IV. Maternal ptosis and stasis. (Rovsing's classification).

Mrs M., age 42, mother of five children, was well until her last child was born 12 years ago. She then began to have a sense of depression and tired feeling upon the slightest attempt at exertion. She was constipated, sleepless, irritable and lost weight. For two years she was under the care of a prominent neurologist. The neurologist said that she had involuntional melancholia. He treated her with tonics, baths, rest cures, etc, with no relief from mental depression, headache or constipation. Her family, in despair, had about decided to put her into a sanitarium, fearing that she would do away with herself. Examination showed her uterus, colon and stomach prolapsed, in fact the entire viscera was down into the pelvis pushing the pelvic viscera out through the vagina. A fixation of the stomach after Rovsing's method was made. The caecum and the transverse colon were also fixed, the appendix was removed, perineum repaired. This procedure held the uterus in its normal position. That woman to-day is sound in mind and body, she looks 20 years younger and has gained 30 pounds.

Case V. Adhesions about the caecum causing stasis, neurasthenia and stomach trouble.

This case, that of a lieutenant in the U. S. Marine, who after several years of ocean and foreign service was sent on recruiting duty as a hopeless neurasthenic, unfit for active duty. His appendix had been removed for the relief of stomach trouble and constipation. It was supposed that he was suffering from chronic appendicitis. This operation failing to give him relief, he contemplated asking to be retired as unfit. An army friend, a doctor, recommended that he ask for a year's leave of absence in order that he might go to the European water cures, baths and specialists. Six weeks treatment in the hospital where the adhesions about the caecum were liberated together with colonic irrigation and liquid paraffine as an intestinal lubricant gave him relief to such an extent that he has again been assigned to regular

duty. I should add that he now wears an abdominal belt with a spring padded elliptical support under the umbilicus. This belt holds up the abdominal viscera.

These are a few of the many cases that I have had under my care. I do not recommend surgery for all neurasthenics who are constipated, for constipation may be the result of the condition. A careful painstaking inquiry into the past history of many cases unrelieved by previous medical and surgical treatment may help you to place some of them in the stasis group, either as a primary or as an end result case.

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TREATMENT OF PELLAGRA.

By ROY F. ROBINSON, Hopkinsville.

In May, 1913, at the Western State Hospital, Hopkinsville, Ky., there were thirteen cases of Pellagra under treatment. We were using oil mixtures locally and giving Fowler's solution without any satisfactory results, however. Believing this to be a protozoal disease, I decided to use bichloride of mercury externally. This treatment was begun the middle of June and in three weeks the dermatitis had practically disappeared in all of the thirteen cases, and in the milder cases the diarrhoea had ceased. In the more stubborn cases, decided to use the bichloride of mercury internally as well as externally, 1-60 of a grain t. i. d. was given and at the end of two weeks there was not a case of diarrhoea among the pellagra patients. During this treatment we placed the patients in an open air colony and the best sanitary conditions possible were maintained.

During the period between May, 1912, and May, 1913, nine patients died from pellagra. During the last fourteen months, since the treatment begun in June, 1913, only three of the sixteen patients under treatment have died.

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EDITORIAL.

THE NEWPORT MEETING.

The recent annual meeting of the Kentucky State Medical Association at Newport was one of the most delightful and, in many ways, the most successful session it has ever held. The regrettable illness and consequent disqualification of Dr. Ellis, one of the most distinguished and beloved members in the profession of the State, and the absence of the three vice-presidents resulted in the election of Dr. John J. Moren, of Louisville, to the Presidency. This recognition of one of the real laborers in organized medicine was a most deserved one. Dr. Moren was one of the most successful presidents of the Jefferson County Medical Society, and has been chairman of the Medico-Legal Committee since its organization. We are confident his administration will be a most successful one.

The scientific program was the best we have ever had. Credit for it is due Dr. W. W. Anderson, of Newport, who was indefatigable in securing the best authorities on the most timely subjects for the meeting. Many of those in attendance congratulated Dr. Anderson upon his patriotic support of President Wilson's neutrality proclamation in having on his program an Austrian, a Russian, a German, a Frenchman, an Englishman and several Irishmen. It is a pleasure to announce to the readers of the JOURNAL that every paper, with ample discussions, will appear in early issues and we bespeak your careful attention to them.

On the social side, nothing was left undone by the hospitable membership of the Campbell-Kenton Medical Society and the ladies and citizens of Newport. We have never encountered a hospitality so genuine and, at the same time, so unobtrusive. The boat ride for a whole afternoon and evening on the beautiful Ohio was a special delight to the inland

members. The members of the State Medical Association present at the meeting can readily understand why the Campbell-Kenton Society has accomplished more real results in the improvement of sanitary and professional conditions in their jurisdiction than has been accomplished by any other society.

The minutes of the House of Delegates will appear in the next issue of the JOURNAL. Probably, the most important action was the provision that every applicant for membership, as well as every member of the Association, should sign a pledge against fee-splitting in any form. As soon as these pledges have been printed and sent to the county societies, a publicity campaign will be begun through the daily press with a view to weeding out of the profession those who dishonor it by fee splitting.

In the election of officers, Dr. J. W. Kincaid, of Catlettsburg, was elevated to the Presidency. This is the first time the presidency has gone East of Winchester and Dr. Kincaid will worthily bear the honor which has been upheld by sixty-four illustrious predecessors. The vice-presidents are Drs. F. G. Larue, of Smithland, Chas. L. Heath, of Lindsay, and J. C. Mobley, of Elizabethtown. Dr. A. S. Brady, of Greenup, was elected to succeed Dr. Kincaid as counselor for the ninth district, Dr. A. W. Cain, of Somerset, to succeed Dr. Hammonds in the seventh district and Dr. Lock to succeed himself in the eleventh district. Dr. Milton Board of Louisville and the Secretary were elected delegates to the American Medical Association. Dr. J. G. Gaither, of Hopkinsville, will be the orator in surgery next year and Dr. O. P. Nuckols, Pineville, orator in medicine.

The next session will be held in Louisville under the auspices of the Jefferson County Medical Society and this in itself is an assurance of the biggest and best medical meeting that has ever been held in Kentucky.

SURGEON GENERAL GORGAS AND THE NATION'S GREATEST NEED.

We take pleasure in re-publishing in its entirety an editorial from the September issue of the *Southern Medical Journal*, under the above title. We trust all of our members will feel the same interest in this important subject that we do.

"His work as Chief Sanitarian of the Canal Zone having been completed, Surgeon General Gorgas has returned to Washington to assume his duties as Chief of the Medical Corps of the United States Army, to which he was recently appointed by President Wilson. No conquering hero ever returned to his native country with a record of greater achievement and none ever deserved greater encomium for his services to mankind than Surgeon General Gorgas. The fame and vain conquests of Alexander the Great, Caesar and Napoleon, and other great conquerors in history, were accomplished at the cost of carrying death and desolation over continents, making millions mourn; while the victories of Surgeon General Gorgas, and those who followed him in the campaign against tropical diseases in the "death holes" of Panama, saved thousands of human lives, made a health paradise of tropical jungles, and, as President Taft said, "rendered possible the completion of the Panama Canal, the greatest industrial undertaking in the history of the world."

The greatest triumphs of medicine in the knowledge of men have been the elimination of yellow fever and the practical eradication of malaria from Havana and the Canal Zone, thus proving that those life-destroying and energy-sapping diseases, the most dreaded enemies to man in tropical and subtropical countries, can and will be conquered everywhere. These triumphs mean that millions will live in health, happiness and unbounded prosperity in regions that are now sparsely inhabited and undeveloped because of the presence of these tropical diseases. Nothing in history is more inspiring than Gorgas' conquest over disease, and the good that he has done will rest like a benediction upon the inhabitants of temperate and tropical countries throughout the world, when wars and warriors and 'the fearful ruin they have wrought' have been forgotten. What a fine theme for the thunder roll of a Homer, this splendid genius of the American Army, with his band of sanitarians, routing the hosts of Death in their tropical strongholds. It towers above the heroism of the lofty plumed Hector or the valor of faithful Achilles.

That Surgeon General Gorgas' work is appreciated in foreign countries—as it is by his own people—is shown by the tribute paid him by the Public Orator of Oxford Univers-

ity, England, who, last March, in presenting him with the honorary degree of Doctor of Science, said:

"Those are most to be honored by us who have increased knowledge and thereby promoted the welfare of the world. Such are many students of medicine; it is a fine thing to have scientific knowledge which can cure disease; but theirs is still a finer, a more dangerous task who can extirpate the causes from which disease springs. It is such men who destroy the seeds of death which are bred in swamps, risking their health and even their lives to serve their fellows. These heroes are a modern realization of the legend of Hercules, the cleanser of foul places and the enemy of evil beasts.

"The eminent American whom you see today has, like many of his countrymen, fought in the forefront of the battle. His achievements are too numerous for me to relate in detail. Suffice it to say that it is he who cleaned Havana; it is he who put fever and pestilence to flight in the Isthmus of Panama, and made possible the long-thwarted construction of the great inter-oceanic waterway; it is he who has recently improved the sanitary condition of the South African mines. He purified the foul air; he waged war on the myriad swarms of death disseminating mosquitoes. The result has been an amelioration of the conditions of human life in plague-haunted districts, where once 'in silent fear the helpless healer stood,' and it is now possible to live in comfort and to work with advantage. There can be no better example of those 'Whose skill hath served the human lot to raise, and won a name that endless ages praise.' (1)

The Acting Vice Chancellor of Oxford in admitting Surgeon General Gorgas to the degree of Doctor of Science approached the epic in expression when he said:

'Pre-eminently distinguished, sagacious, health-bringing, the modern Machaon of the American Army, whom indeed I should wish to salute not only in Latin prose, but also in Greek verse, thus:

'Hail, Router of the Plague of Flies! Hail, Isthmian conqueror true!
Gorgas, to that wise goddess dear, the Gorgon
Death who slew.' (2)

Perhaps the highest compliment ever paid a sanitarian by a foreign country was when the English called upon Colonel Gorgas to investigate sanitary conditions in the Transvaal and in Rhodesia. His recommendations to the Transvaal Chamber of Mines for improve-

(1) Journal of the American Medical Association, June 13, 1914, page 1864.

(2) Journal of the American Medical Association, June 13, 1914, page 1865.

ing the sanitary conditions of the employes of the mines on the Rand, as published in the *Journal of the American Medical Association*, June 13, 1914, if carried out, as they were on the Canal Zone, will reduce the number of deaths from pneumonia alone by thousands each year, and his visit will thus prove a blessing to the inhabitants of South Africa.

The report of Surgeon General Gorgas' investigations concerning the causes of malaria and black water fever in Rhodesia, with his recommendations regarding methods to employ in stamping out those diseases in that locality, which appears as the leading article in this number of the *Journal*, is probably the ablest, the most authoritative, and therefore the most important, discussion on the prevention of malaria ever published. Malarial prevention is the same everywhere, and the measures he advises for Rhodesia will apply to any locality in which malaria is prevalent. Why should they not be put into practical operation in the malarial districts of the United States, as well as on the Canal Zone and in Rhodesia? Why should we not practice among our own people the methods for preventing all other diseases that have given such brilliant results in our territorial possessions and in other countries? Surely there is need for improvement in the health conditions of the United States.

In the year 1912, 838,251 deaths from all causes were reported in the registration area, which comprises only 63.2 of the total population of the United States. There were then approximately 1,400,000 persons who died in our country in the year 1912. It is estimated that at least one-third of them, or more than 450,000, died needlessly of diseases that could and should have been prevented. Pneumonia alone caused the death of 79,917 in the registration area and at the same ratio for the entire United States approximately 125,000 died of this disease, which the average person does not regard as preventable, and which our government has done nothing to prevent, yet on the Canal Zone among the negro employes the death rate from pneumonia was reduced from 18.74 per thousand in 1906 to 1.30 in 1912 (3). Of course, it is not possible to control the housing and other environment of the inhabitants of the United States as was done with the laborers working on the Panama Canal, and we could not hope to reduce the death rate from pneumonia and other diseases as low as reported by Surgeon General Gorgas, but hundreds of thousands of lives of good American citizens could be saved if we even approximated the sanitary measures employed in the Canal Zone.

It is estimated that several million people in the United States have malaria every year, and the annual economic loss is considered to be not less than \$100,000,000 from that disease. Yet if the same practical methods of malarial prevention, which were successfully carried out in Havana and the Canal Zone, were put into effect and continued for five years in our own country, malaria would become a rare disease in the United States.

The toll of tuberculosis in our country is now approximately 140,000 lives annually, though in the past twenty years the campaign of education has reduced the tuberculosis death rate from 200 to 150 per hundred thousand of population. Two hundred thousand die annually from disease of the heart and kidneys, when according to the Human Factor, published by the Equitable Life Insurance Company, 40 per cent of those deaths could have been prevented. The death rates from diseases of the heart and kidneys are increasing at an alarming rate, and yet practically nothing has been done for their prevention. Cancer is increasing, and so are many other diseases.

The figures and facts presented above are appalling. They tell the tale of ignorance upon the part of our people and neglect upon the part of our government. They also prove that the Nation's greatest need is an adequate department of health, with an appropriation sufficient to provide experts, epidemiologists and trained sanitarians to aid the health authorities in the various states and cities in their campaigns against disease.

The present United States Public Health Service, under the wise leadership of Surgeon Generals Wyman and Blue, has made a wonderful record in quarantine service, and when called upon to take charge of epidemics in various cities it has shown remarkable efficiency. Indeed the annuals of medicine record no more brilliant achievements than the eradication of plague from San Francisco by Blue, and yellow fever from New Orleans by White. The work of Stiles on hookworm, Anderson and Rosenau on anaphylaxis, Lumsden on typhoid fever, Lavender on pellagra, von Ezdorf and Carter on malaria, Rucker, Creel and Grubbs on plague, and Young, Goldberger, Trask and other surgeons in various phases of public health work has reflected great credit upon the United States Public Health Service; but ten men are needed in public health work where there is now one employed, and the Bureau of Public Health should be enlarged into a department with a member of the President's Cabinet at its head.

The Army and Navy Departments protect life and property in time of war. Is it not

(3) Gorgas: *Journal American Medical Association*, June 13, 1914, page 1856.

just as important to protect life and property during peace? The Department of Health should be on the same basis as the Departments of the Army and Navy. Indeed the medical corps of the Army and Navy should be correlated with the Department of Health during times of peace. It might be well to go further and train selected men in each regiment as sanitary inspectors to be used by the various cities and States, upon request, as in times of an epidemic. New Orleans is now spending \$50,000 per month in salaries for plague prevention, when the work could be better done at probably one-fifth the cost if the United States Marines were trained in sanitary work, and could be called upon for that service. Is not the protection of the health and lives of a people of equal importance as the safe-guarding of labor and commerce, and should there not be a Department of Health with a Secretary of Health?

The American Medical Association, the Southern Medical Association, and practically every State, county and city medical society in the entire United States have endorsed legislation for the creation of a Department of Public Health with a cabinet officer at its head. Efforts were made to enact such legislation during the administration of Presidents Roosevelt and Taft and though success seemed assured, the bills were defeated. The next session of congress seems the most propitious time to present this most important measure to our national legislators. Never in the history of our country has so much advanced legislation for the good of the entire people been made into laws as in the past year; and the democratic party, under the leadership of the most accomplished statesman that ever occupied the presidential chair, will not fail in its opportunity to meet the Nation's greatest need and create a Department of Health. During the interim of the sessions of Congress physicians should make the opportunity to inform their friends among the Congressmen and Senators of the needs for such legislation. If the medical profession will stand united on this question there can be no doubt but that before another year Congress will have enacted the greatest possible piece of constructive legislation for the good of the whole people by providing for an adequate Department of Health.

Great epochs develop great men to lead the great movements for the betterment of mankind. The present epoch in the world's achievements will go down in history as the dawn of the science of sanitation and in this movement our country leads all other nations, and she has produced the greatest leader. The United States Government has sent through Surgeon General Gorgas the gospel of health

and sanitation into Cuba, the Canal Zone and South Africa, and will she not call upon the genius she has developed to lead the fight against the hosts of Death that have invaded our own country and that every year destroy more lives than have been lost in all the wars in our history.

Our Government owes it to Gorgas to create a position of greater honor than has ever been filled by a sanitarian, or by any other member of the medical corps of the United States Army. After Dewey's return from his victories in Manila Bay a grateful nation gave him such a greeting as has never been accorded any other man in our history, and Congress voted to make him a full admiral, the highest position in the Navy. Are not the achievements of Gorgas of greater service to our country and more far reaching in their effect in increasing national prosperity and happiness than any naval victory ever won? If so, Congress should show the gratitude of the people whom it represents by first making Gorgas a major-general in the United States Army that he may retire with that rank. Then it should perform the greatest possible service for the Nation by creating a Department of Health, and the sincere desire to appoint the man who can give the best service in the position may be depended upon to lead President Wilson, who has proved his wisdom in every act of his administration, to select Gorgas as Secretary of Health in order that the Nation's greatest need, as well as its greatest opportunity, may be fulfilled."

A GOOD BREAKFAST FOOD.

As our readers realize, we rarely feel it necessary to call specific attention to an advertisement in our columns, because we are confident that they carefully consider our advertising pages. We depart from our established rule, however, in calling especial attention to a real food prepared by the Uncle Sam Breakfast Food Company because it is of real value in the treatment, or perhaps we should say the proper care, of many cases which, without some similar agency, give the physician and patient much trouble. This food produces a bulky bolus in the intestine that is really laxative. It tastes well, quite as well as any of the other breakfast foods, and deserves a trial by that class of people whose sedentary habits cause them to be constipated. In very obstinate cases of constipation a tablespoonful of oil of paraffin at bedtime given in conjunction with this breakfast food is of great value. We trust our physicians will give this matter a trial, and the JOURNAL will be glad to publish any communications from them as to its success or failure.

SCIENTIFIC EDITORIALS.

EXPERIMENTAL AND CLINICAL
DATA IN REGARD TO SECRE-
TION OF SKIN FAT.

While we know that some skin diseases are due to disorders of the fat-producing glands characterized by an increased, decreased or altered secretion of sebum, no accurate account was ever made as to the real quantity of sebum that is secreted by the normal or pathologic skin.

According to old data collected by Krunenberg and Levbuscher in their many experiments, some light is thrown on the comparative amount of fat secreted by the skin in normal and pathologic state. They determine the amount of fat secreted by the skin in twenty-four hours by multiplying the amount of fat of a given area by the number that this area is a part of the whole body; they found the amount of fat secreted by the skin in 24 hours was variable in different persons and could not be put down with exactness.

Rosenfeld, extracting the fat from woolen linen by chloroform and ether, found the amount of fat excreted by the skin in 24 hours on the linen to be about 1.2 gm. and showed thereby the influence of nutrition upon this process. By introducing carbo-hydrate food (without fats) the amount of fat secreted by the skin was larger than by the use of food rich in fats.

Kuznitzki followed the methods of Rosenfeld with the addition that the woolen linen was previously made fat-free by manifold fat-abstracting agents. His method confirmed the experiments of Rosenfeld and he got the same amount of sebaceous matter in 24 hours (1.2 gm.) but he could not see the great influence of diet upon the secretion of skin fat; introduction of carbo-hydrate diet or fats rather decreased the amount of skin fat. It is curious, that fat, taken in the form of sesame oil, was found present in the skin fat. The difference in the findings of Rosenfeld, Kuznitzki explains is due to the influence of low temperature (winter time), for when the subject remained in a heated room (81 F.) the secretion of fat increased from 1.15 to 1.73 and from 1.05 to 1.29 gm.

Rosenfeld found a lowering of secretion of daily output of skin fat in diabetes with furunculosis. The same phenomenon, in a lesser degree, he found in bromism. The author verified the last experience on faces, where patients were given 45 gm. of sodium bromide until the appearance of a bromide acne. Before the individual was taking bromide the daily quantity of secreted skin fat

reached 1.35 gm., during the administration of bromide it fell to 0.7, and, at its discontinuance it went up to 0.94 gm., but this was due to the presence of ulcerative process caused by taking the bromides. The amount of bromides found contained in the given extract was very trifling. Hence the author denies the possibility of direct or indirect role the bromides (through stimulation of the growth of bacteria) play in causing acne. Here we rather see as a causative factor the decrease of protective function of fat—mechanical envelopment of bacteria (Listner) and probable bactericidal action (Gottstein). From the same standpoint we can explain furunculosis in diabetics. On the other hand, it is true we find facts that are contradictory to the above conclusions: eczema in corpulent patients, eczema in nurslings, all disappearing when we adopt a carbo-hydrate diet and exclude fats. Czerny claims that eczema can be caused by administration of too large doses of fish oil.

In regard to acne vulgaris, a disease in which we always find the presence of an oily seborrhea, we get a hyper-production of fat. Of course we can dissolve the skin fat on account of its hygroscopic properties which are almost equal to lanolin (about 100 per cent. water, according to Lisner). The same author determined the daily output of skin fats secreted by the skin on the face in a case of seborrhea oleosa and found it equal to 0.07 gm. The author for comparison determined the daily quantity of fat of normal skin on the face and found it equal to 0.046. If Mech's and Weidenfeld's number expressing the relative proportion of the skin of the head to the body as 1.21, we get in a seborrhea case the total amount of fat secreted, 2.9 gm., while in normal state it is about 1.96 gm. Hence, the causative factor of acne vulgaris does not depend entirely upon the lack of secretion of fat but is due to other causes, such as lowering of bacterial properties of skin fat.

It also must not be forgotten that the accurate amount of sebaceous secretion in normal or pathologic condition can not be determined, until physiology will be able to explain the exact mechanism of the sebaceous glands. Yet the study of secretion of skin fat in human beings in different climates and in varied diseases may help to bring up to a comparative solution of this important matter.

M. L. RAVITCH.

PRESIDENT'S ADDRESS*

By J. W. ELLIS, Masonville.

I have no words at my command with which to adequately express to you my high sense of appreciation of the unsought and unmerited honor your partiality conferred by selecting me to preside over this body of learned and accomplished men, who are so courageously working for the sure rescue of mankind from the pitiless assaults of disease.

Another year has joined the silent procession of dead centuries, since we last met in annual session at Bowling Green, but we have not forgotten the deep gloom, which like a pall, marked the closing hours of that meeting by the announcement of the tragic death of Dr. J. B. Marvin in a railway wreck. Scarcely had the flowers withered on his grave, before the wires were again busy announcing the fact that another hero in our profession, in the person of Dr. W. H. Wathen, had fallen at his post.

Apparently not satisfied with these sudden incursions into our ranks, the skeleton hand of death only a few days later, removed from our midst another of our most brilliant members, Dr. J. G. Cecil.

These doctors were leaders in Kentucky, of the very best thought in medicine and surgery. All of them had dignified and adorned the presidential chair of this Association, and by their devotion to, and triumphs in their chosen profession shed great luster upon American Medicine, and besides, won merited social prominence among their fellow citizens. We lament their absence from among us to-day. Their sudden taking off is another stern reminder, that: "In the midst of life we are in death." But while we lament the death of our colleagues, we find real solace in the reflection that the good influences of their lives survive, and will continue to be an inspiration to all of us; for if we cast our eyes back over the path of our past lives, whether our head be silvered over, or crowned with the richer hues of youth, we shall see how largely our course of life has been mapped out by the lives of those whom we have known, admired and lost.

To say these are days of great agitation and unrest, does not accurately define conditions at present prevailing throughout the civilized world; for it is a deplorable fact that at the present moment Continental Europe and the British Isles are engaged in a hostile clash of arms, which gravely threatens to develop into the bloodiest struggle that marks the highways of history. But happily for the people

of our own great nation and all those who claim protection under the folds of its flag, we are in the enjoyment of undisturbed peace.

In these circumstances it is wise, especially for our profession, to highly resolve, that it will continue with renewed zeal, the prosecution of its humane mission of relieving and preventing, as far as possible, the maladies which have so unflinchingly attended our race through all its history. It may be well, therefore, to inquire what progress our profession has made in the past and what its possible achievements for the future shall be.

There are those who claim that in spite of medical skill and science, we are degenerating, and rapidly drifting toward race extinction. Dr. Newell Dwight Hillis, pastor of Plymouth Church, New York, perhaps one of the greatest pulpit orators in this Country, has recently delivered a series of sermons on the decline of the "American Physique." These sermons have been published in pamphlet form, and widely circulated throughout the entire country. The views advanced by this scholarly man, were so startling that, at once a convention for race betterment was called to meet at Battle Creek in January last; that convention was participated in by many of the scientists of the Country, nearly all of whom could see race degeneracy menacingly staring us in the face.

As evidence of this hopeless trend of our race they point to the fact that sixty per cent of all the young men tested at the recruiting offices of the army and navy of the United States, are physically unfit; they call attention to the fact, that the standard height for admission to the army in 1880 was five feet six inches; that in 1900, the standard was reduced to five feet in order to fill the ranks, as evidence of degeneracy, apparently without reflecting that the real cause of this seeming reduction in the standard, is due in large part, to the fact that army life, with only \$13.00 per month pay, is no longer attracting the best physical and mental element of young men, when fields of profitable business and employment lie all around, inviting them to come up higher.

It is claimed that more than ninety per cent. of fifteen hundred children examined in three different schools in New York City were found defective and "out of the race of life before they got into it." When it is known that eighty-five per cent of all the children that come into the world are sound in mind and body, it is difficult at first blush, to conceive how such an alarming per cent of defectives can exist. But a little reflection will, I think, make it plain that the claim is unreliable.

In the first place it is fair to presume that

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the report deals with schools located in the slums of New York City, where it is a known fact that many of the pupils are the children of a very undesirable contingent of our foreign population, who on account of their degeneracy and common criminality, have sought refuge in this Country.

Again the fact must not be overlooked that a large per cent. of the children in this Country are not enrolled in the city public schools, and moreover careful examination will in all probability disclose that the authors of this report were not in a position, on account of lack of experience and a proper knowledge of all the facts, to make a trustworthy report upon so important a subject.

Our own observation and experience teach us that the report to which I have alluded, ought to be largely discounted.

Whoever has kept pace with current literature, bearing upon the mental and physical condition of children born in this Country, will know that there is not the slightest ground upon which to base so melancholy a condition, as is alleged to exist in some of the schools of the City of New York. But we are told by these same pessimists, that hospitals, asylums and better conditions of living, have not only multiplied the number of defective individuals, but over-weighed the race, and that now the average of human life is but little above the grade of "trained idiocy."

If these views are correct, then medical science through all these years of toil, labor and skill, instead of ameliorating the condition of the race, appears to have been doing the very thing which best augments the ills it is endeavoring to cure.

But these scientists admit that weak lives have been prolonged by sanitation and hygiene, and that the average mortality has been decreased: but by some strange process of reasoning, they deny that the very same environments that strengthen weak lives, has operated to benefit strong lives, and that a decreased proportion reach old age, which they claim is the real test by which to determine whether the race is retrograding, or advancing.

The argument that the same influences which prolong weak lives do not prolong the strong lives and add many years to old age, is not only illogical, but absurd. We learn from history that in Sweden, where the same hygienic and sanitary measures are taught and enforced, that have constantly been urged upon the people of America, by the medical profession, that upon careful investigation the facts show the expectation for life has been increased for all ages.

If the reduction of infant mortality was the cause of increased adult mortality in the

next generation, we should see some trace of its effect in Sweden. If it could be shown that the system which decreases the per cent. of infant mortality at the same time operates to increase the rate of mortality in old age, those gloomy prophets, who argue that we are rapidly approaching a period where ills accumulate and "men decay", would, at least, be able to show their prophecies rested upon a surer foundation than on the treacherous quicksands, where they appear to have anchored it. But happily for mankind, their assertions find no real sanction either in science or in authentic history.

Again there are those who claim that our asylums are overflowing with inmates, as evidence of race degeneracy. These alarmists forget that the diagnostic ability of the medical profession is so improved that evidences of insanity are more readily discovered than heretofore, and with the desire to improve these unfortunates by giving them the advantages of institutional treatment, which promises most for them, are having them committed to eleemosynary institutions.

It is a known fact that medical science has in the past few years made such rapid strides in accurately finding out what ails the sick, that what formerly appeared to be mental and moral weakness is now known to be due to physical ailments. Dr. Ferrell of the Rockefeller Sanitary Commission, says, "Hookworm is one of the most common, most insidiously harmful diseases known to man, that many ills which were formerly attributed to mental and moral weakness of whole bodies of people, are now definitely known to be due to this infection, and curable with its cure." Its eradication, medical science has already demonstrated, is not only possible, but easily accomplished by proper hygienic and sanitary measures at a merely nominal cost.

This means much to more than half the American people. It means that a great class of people who heretofore, have been regarded as imbeciles, degenerates and perverts who have been burdens on society, will be, and are being rapidly cured of their physical afflictions, and restored to normal useful and happy citizenship, able to play well their part in the great drama of life, and leave behind them an improved and strong progeny. This result accomplished, as it soon shall be, should convince these pessimists who are constantly declaring the human race is rapidly drifting towards degeneracy and consequent race extinction, that they are in dread of evils that will never occur.

Some of the physician's critics are asserting that doctors do not make their voices heard enough in "guiding and influencing

public opinion in those matters wherein its members can speak with authority; that they more often see behind the curtain than others; that they know more than others about the secret causes of sin and sorrow, the delicate influences by which the soul and body affect each other; the mysterious and melancholy trammels of morbid heredity." We refer these critics to the constant and unselfish work of the profession, not alone in the great centers of medical learning, but in the more remote districts as well.

We have but to point them to the brilliant achievements of medical science in the recent past, to convince them that the science of medicine has not only kept pace with every other science, but has out-stripped them all. As the custodians of public health, physicians have always regarded that the happiness of the human race, its prosperity and longevity was intimately connected with the science of medicine, and enhanced in proportion to its successful development, and have been devoting their unselfish lives to the betterment of all mankind, with the result that no period in the world's history shows more progress toward freeing men, women and children from the blighting hand of disease than the present.

To-day, as never before, the voice of the physician is heard all over the land, directing the way of escape from tuberculosis, typhoid fever, diphtheria, scarlet fever, pneumonia, malaria, the bubonic plague, and all other contagious and infectious diseases.

The profession should be conceded a pardonable pride in the successes and triumphs it has achieved in the recent past, in stamping out the deadly diseases in the Canal Zone, that once uninhabitable land, not only making it a fit home for man, but the construction of the Canal, now an accomplished fact, possible.

Yellow fever, the great scourge of our beautiful South, has been erased from the map by the science of medicine, although it required the actual sacrifice of lives of members of our profession to accomplish it. Working under the Rockefeller foundation for eradication of Hookworm in the South, Kentucky physicians in the past two years have made more than 82,000 examinations.

The work of county dispensaries has been far reaching, having made more than 50,000 microscopic examinations and instituted more than 13,000 treatments. The State laboratory has not been idle, it has examined more than 26,000 specimens. Physicians throughout the entire State have reported the treatment of more than 45,470 cases of hookworm disease, and have constantly been busy teaching sanitation and hygiene by distributing

pamphlets, bulletins, contributing articles to the daily press, as well as delivering public addresses on health subjects in school houses and churches, in almost every city and hamlet throughout the entire State.

As a result of this useful work on the part of the profession in this State, statistics show there has been a decrease in the death rate of all preventable diseases; although but two short years have elapsed since this concerted action was begun, a decrease is noted of 297 in the number of deaths from typhoid fever, and 529 from tuberculosis.

Not satisfied with these splendid achievements, but recognizing that the toll of life was still far too great in the State under existing conditions, physicians framed and caused to be introduced in the last State legislature a bill providing for a whole time health officer in every county in the state, whose sole duty should be to look after the health of all the people all the time. This health officer to be a reputable licensed physician of scientific attainments. This bill passed the lower house, but from some unknown influence, was strangled in the Senate. This bill was conceived and born in that pure altruistic spirit which has always characterized the medical profession. It was well known by the profession everywhere, that if this measure were enacted into law and put in motion it would conserve the State's most valuable asset—the health of all the people, bringing prosperity and happiness, as well as unnumbered years of life to the human race; that it would protect men, women and children from the ravages of preventable diseases and those frightful epidemics that annually scourge our land carrying with them many of the best specimens of young manhood and womanhood, as well as snatching from the mother's breast her infant, leaving her to sit in the weeds of mourning on the grave of her best hopes.

Nothing daunted by this rebuff of the law-making power, the profession is carrying this measure before the people instructing them, as to its life-saving power and the blessings that would come to each and every one by the passage and enforcement of such a law. Of all the laws appearing in our Statute books, none means half so much to the people and the State as this proposed measure. It means that a specially qualified man would be among them all the time teaching correct methods of living, how to escape diseases and all those pernicious influences that are continuously gnawing at every vital process of mankind, depriving them of all opportunities to develop into robust man and womanhood.

The medical profession has always regarded itself as the guardian of the public health,

and has unflinchingly addressed itself to every measure that would improve the physical man, and by so doing, would likewise improve the moral and intellectual man.

The voice of the physician has constantly been heard directing the way of escape from decadence and premature death, with the result that to-day the world is wiser and better than at any previous period in its past history.

The present high physical, social, moral and mental status of our American citizenship rests to-day on surer foundations than ever before, and inspires us with ardent hope that yet better things and greater developments in all that goes to make up a model nation of self-governing people await us in the future.

Neither the sarcastic reproaches of critics, the empty prophecies of theorists, nor the dismal warnings of pessimists, nor all combined can stay our onward march to a higher destiny. As we hail with delight the present happy conditions so promotive of the usefulness, prosperity and happiness of our fellows, we confidently gather within the horizon of our faith, that as the ages go on, our race will continue to advance all its standards, till they float over an ideal citizenship, not only in our own, but in every land, where liberty regulated by law, has a sure abiding place.

Placental Blood for Transfusion.—A patient with pernicious anemia received three intravenous injections of defibrinated blood, and one injection in the gluteal muscles, with remarkable results. Rubin's patient was a woman, aged 55 years, with a general history and blood-picture of a typical pernicious anemia. Red blood-cells, 1,100,000; poikilocytosis; megaloblasts; megalocytes; morphoblasts; leukocytes, 6,500. She had frequent attacks of dyspnea and tachycardia. She received 6 ounces of defibrinated fresh placental blood, mixed with an equal amount of normal sodium chlorid solution, making a total of 12 ounces. This was injected through a vein in the flexure at the elbow, the blood being kept at about body temperature. The red blood-cells increased 400,000 in less than twenty-four hours. The patient showed signs of immediate improvement. There was no dyspnea nor tachycardia. A week later 16 ounces of blood in normal salt solution were again injected intravenously in the other arm, but after 10 ounces had run in, extravasation took place and blocked the vein, so the balance of 6 ounces was injected in the gluteal region. The red cells increased 200,000 within twenty-four hours. A third injection of 16 ounces of blood in normal salt was made a week later, increasing the red cells 500,000 in twenty-four hours. The patient's general condition improved even more than the blood.

ORATION IN MEDICINE

A BROTHERHOOD OF DOCTORS.*

By WM. AUBREY POOLE, Henderson.

We are sometimes told that in the ancient civilization men did many things better than we do them now, and that at the best we ought to recognize what we consider discoveries are mostly but rediscoveries.

Recent discoveries by Assyriologists have moved the beginnings of things medical much farther backward than we had believed. Evidences of Assyrio-Babylonian medicine have been traced as far back as four or five thousand years before Christ. About 2200 years before Christ medical laws were codified, and one of the interesting things we find at this time is that fixed fees were established for certain operations, indicating that at this early date the medical men recognized the importance of co-operation and there probably existed at that time an association of doctors, and perhaps a strong, binding brotherhood.

The writings of Hippocrates were evidently influenced by the Assyrian and Egyptian writings. Evidences of continuity have been found also between ancient Indian medicine and the Assyrio-Babylonian; therefore, may we not conclude that Hippocrates was influenced by history or traditions of the ties of brotherhood at this ancient time, when he wrote the "Hippocratic Oath," in which after appealing to the gods by name as witnesses to his supreme purpose and his ideas of professional obligations, he uses this language, "I will keep this oath and this stipulation to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him and relieve his necessities, if required, to look upon his offspring in the same footing as my own brother.

This oath bound all who sought to practice the noble healing art in the most rigorous bonds of honor and brotherhood.

After the Hippocratean period we do not find much evidence of medical organization until the time of Galen, of whom has been said, "He was a man furnished with all the anatomical, medical, and philosophical knowledge of his time. He found the medical profession split up into a number of sects, medical science confounded under a multitude of dogmatic systems, the social status and moral integrity of physicians degraded. He appears to have made it his object and practical skill, to bring back the unity of medicine as it had been understood by Hippocrates, and at

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

the same time to raise the dignity of medical practitioners."

While medical science remained almost stereotyped for thirteen hundred years after Galen's time, there were many dogmatic systems brought into existence during this period and occasionally bits of progress and of organization, when a sufficient number of medical men associated themselves together to establish schools would often develop advanced thought as did the Alexandrian school which surpassed its Greek original in the study of anatomy.

Then Paulus Egineta, who probably lived in the early part of the seventh century, brings into prominence the Byzantine school by his great work on obstetrics and surgery, which are really the foundation and chief source of surgical knowledge to Europe in the middle ages.

The school of Salerno and the Arabian School about the middle of the 11th century.

Then Montpellier became distinguished for the practical and imperial spirit of its medicine.

The University of Paris, Bologna, and Padua were early distinguished for medical studies.

Paracelsus (1490-1541) in Germany, made a clean sweep of nearly the whole of dogmatic medicine, ignored the teaching of Galen, but spoke with respect of Hippocrates, and founded a system of his own.

In 1628, Harvey discovered the circulation of the blood and from that time modern medicine took its rise.

Then came the organization of the Medical Society of London in 1773.

Jenner discovered vaccination and prepared the minds of men for the ideas of Pasteur, Lister, and Koch.

Medical and surgical science are making more rapid strides of advancement to-day than at any time in the history of the world, but when we ask ourselves what was the real beginning of this unprecedented progress in this country, we must answer the organization of the American Medical Association.

This thought reminds us of Mephistopholes' observation "that the human mind merely advances spirally and reverts to a spot close to its origin." The original organization of the American Medical Association was simply an Association of Physicians, but the real triumph came after the reorganization and there was formed a brotherhood nearer like that which existed in the time of Hippocrates.

Thus it will be seen that whenever there has been advancement made in medicine, there existed at the same time an Association of

Doctors. The closer the Association, the greater the progress.

One way in which such brotherhood would help us now is in the collection of fees. Not by blacklist, but as Dr. McCormack says, by substituting common sense plans of cooperation, ideas of a real community of interests, of practical, kindly helpfulness, in the place of the habit of faultfinding, jealousy and aloofness, which is still as easy to find as it is disgraceful between the physicians of many communities. We would try to help raise the earning capacity of the average member by making him a better practitioner and a better man by means of persistent post-graduate study and by the influence and example of the higher grade members, and in such intercourse as comes in daily practice, and then in leading him to the adoption of systematic business methods, and aiding him in other ways in securing better compensation, by educating the people that the greatest investment any community can make is to provide well for the men who guard their health. Again "a community which keeps its doctors in poverty, will have a large portion of its people die prematurely."

Dr. W. J. Mayo said: "A physician owes it to himself, to his family, to his profession and especially to the community at large to manage his finances well, otherwise, he cannot pursue his studies and give to the sick his best efforts, which they have a right to expect and demand. No sensible man enters on a medical career with a view of making money. I have never known a physician who has become rich from this source and it is better so, for beyond that reasonable competence which leaves him free to pursue his life work, the care of money interferes with the highest aims of the true physician, and few who have been burdened with wealth, have reached their ideal in a calling which makes no distinction between the rich and the poor."

Benjamin Franklin thus emphasizes this idea: "It is more difficult for a man in want to act honestly than it is for an empty sack to stand upright."

Since through the secular press is unquestionably the easiest way to reach the laity, and since it is the duty of the medical profession to instruct the public and protect them as much as possible from quacks and imposters, it is evident that we should, without violating medical ethics, have some legitimate means of reaching the newspapers.

Dr. Crile says, "It is obviously absurd to suppose that communication with the press can be severed. Even if it could be, it is desirable to keep all medical news from the public? The press is or may be beyond doubt the most powerful means of influencing public

opinion in the beneficent lines so much desired by all medical men—the teaching of hygiene, public health, sanitation, preventive medicine and other subjects of general interest and benefit.

Mr. Adams says: “Much can be done in the health education of the public, whether in cancer, tuberculosis, in the venereal plague, in the epidemic diseases, by lectures; more can be done by the magazines; but the universal agency of popular education is the daily press.”

Information given by real physicians would protect the public from “Twilight labors,” “Viava Treatments” and “Cancer Cures.” And it would have kept the English Parliament from granting Joanna Stephens 5,000 pounds for worthless prescriptions in 1738, and the great United States Senate from making such unheard of report on the pretenses of Frederick Franz Friedman in 1912.

For want of a more feasible scheme of bringing about association with the press I am going to give the suggestion of Dr. Pettit, of Illinois: “A Bureau of Medical information can be organized, which shall furnish information to the press free, and also censor advertising matter. This will simply be enlarging a function of the association which is now operating on a comparatively small scale. This service is now being performed by the *Journal of the American Medical Association* on the request of a few of the leading newspapers and other periodicals which are pioneers in this movement. The best means of carrying this method into effect is a mere matter of detail, which a little experience will soon develop. A very good plan is to organize a press bureau under the direction of the Committee of Health and Public Instructions, and the duties of which will be to supply the press with medical news and censor medical advertisements—or what may be a better plan will be to supply the press with medical news and information bureau under the direction of the advertising departments of the *Journal of the American Medical Association*.”

The wisest of men in all the generations ago were too few to stand alone. And while at times God himself had invested and equipped in the mentality of some created man a genius, it was but the message of heaven through him as its apostle to send the news of discovery and invention to the world. He was but the medium transmitting from diviner sense the interpretation God intended for the benefit of humanity.

Even when he was a divine messenger, the experience of history tells us that he needed the co-ordination of man, though his inferiors and their cooperation only made the more effective the divine message sent from the

skies. No one man is big enough, there never was a man big enough to bring that message alone to the world. Christ himself was aided by his Apostles. Christ with all the power of his divinity, has through nineteen centuries failed, I speak it with reverence, to communicate to an unbelieving world the message he bore from Heaven.

History teaches us that through co-operation, through co-ordination, our best lessons are taught, and our best results are felt and effected. Without co-operation, without co-ordination, without association, you create simply the egotist, nursing to himself his fond and exclusive knowledge, which but leads to mistakes, to confusion utter, when if he had consulted with and taken the advice of his fellowman along the line with the same thought, he might not only have developed a brilliant conception, but he might though to his own confusion, yet to his greater satisfaction, learned the folly of his own fancy or be assured of a successful remedy or benefice to the race.

It is true that sometimes some great genius gives to the world the result of his own finding and abstruse reflection and study, a great and notable fact upon which hinges the betterment of all the race. To his confusion, at times, when unsupported by the able leadership and association of men whose lives are devoted to the conquest of the same subject, or accomplishment, he is baffled for a time by the ridicule and scoffing of the ignorant multitude, but the very publicity of his findings or discovery, when through the means of the lay press it reaches the ear and the mind of greater intelligences devoted to the same quest, at last gives him his splendid support and the world reaps the benefit of an exclusive study, which might have been laughed to scorn and lost in the ignorant contempt of the multitude.

History abounds with instances of men, who alone and independently, yet too fatally, have been led into vulgar error by their own conceit and egotism.

I am reminded as Plutarch tells us in his Life of Cato, though a great Roman Senator and one of the most philosophic statesmen of the Roman Empire, was obsessed with his own knowledge, I would rather say, his own ignorance, of the physician's great mission in life. He advised his son to beware of all physicians and added that “he himself had written a little treatise in which he had set down his method of cure, and the regime he prescribed when any one of his family fell sick. He never recommended fasting, but allowed them herbs with duck, pigeon, or hare, such kind of diet being light and suitable for sick people, having no other inconvenience

but making them dream. And that with these remedies and this regime he preserved himself and his family." But his self-sufficiency in this respect went not unpunished, for he lost both his wife and his son, being all of his family.

This independence of thought and action has obsessed the individual from the very dawn of our historical knowledge. Edward the Confessor was a healer of the sick and restored the sight of the blind. It was he who first used the healing benediction, which he left to succeeding royalty so that even the pious Charles II touched 8,500 of his afflicted subjects and 100,000 in the course of his reign.

This we learn from Knight's History of England, so that the crowned head, in his royal robes, was obsessed with a fantasy, which benights the undivine and unpatented intellect of the present day, and we find men in this day of enlightenment, when the medical press, when the lay press, when the lecture platform, when the interdependent research of associated men, weigh, measure, and condemn or laud the discovery of some genius, though it be an accident, giving with richest charity to all the world the benefice of their findings.

I can conceive of no created man whose mind is higher than that of the great, learned unselfish physician. His highest honors come in his successes and victories in baffling disease. His greatest blessings, and his highest crown, is in seeing the race of humanity benefited by one thought, one effort of his own, though it be dispensed and be distributed through the hands and the minds of his fellow associates in his profession.

The old maxim "A wise physician, skilled over ills to heal, is more than armies to the public weal." The greatest achievements of the nineteenth century in medicine and surgery is the co-ordination and co-operation, finding its best expression in the organized societies with which our land at this particular time is blessed. Had there been such organization in the time of Cato or in the time of Edward the Confessor, how each, though great and high in the esteem of their fellow-men, would have been laughed to scorn and dismissed with pity had the organized and co-operative mission of the living, cultivated, and learned physician denounced at the time these vile and ignorant quackeries.

No man can live unto himself and for himself alone. The party or the church must be made up of many minds and the individual must recognize early the lesson that success of any organization is upon this principle; in essentials, unity; in non-essentials, liberty,

each individual surrendering much to the judgment of the majority secures the success of the cohesive whole.

The crest and crowning of all good,
Life's final star, is Brotherhood."

—Edward Markham.

ORATION IN SURGERY

TUMOR FORMATION IN PLANT AND ANIMAL LIFE; ITS RELATION TO FREQUENCY OF CANCER IN MAN.*

By A. DAVID WILMOTH, Louisville.

I would indeed be ungrateful if I did not at this time express to you and to this Society my deep appreciation of the high honor conferred on me by making me your Orator in Surgery for this meeting. An honor coveted enough by those of more mature years, to make it an especial honor when falling on one of mine.

In this age of rapid progress when the person who says a thing can't be done, is interrupted by some one doing it, nothing that has felt the touch of the hand of man has made more rapid strides than the Science of Medicine. It has moved from the sphere of "hoodoism," to frighten away the evil spirits as practiced by savages, to an exactness. This has been done by a profession who numbers within its folds, men who are as loyal, true, and brave, as ever marched to sound of fife and beat of drum. Ours has been a quiet march amidst sickness, pain and death. No martial music cheers us on, but our inspiration comes from the true physician's burning desire to lessen the sorrow with which he comes in contact each day and hour.

As does the lighthouse on the English Channel bear the inscription, "*To give light and save life,*" so also does our motto read; "*To save life, restore function, and relieve suffering.*"

How easy it is to adapt one's self to surroundings of every day life.

While the entire civilized nations of earth are watching the Mexican situation and stand aghast, when during a battle in far away Europe 4,000 or more are slain, while the entire Southland is watching with interest the Bubonic Plague in New Orleans with only a few recorded as its toll, there is and has been around and about us an enemy that numbers for its toll each year, in the United States

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

alone, more than 75,000 souls. I refer to *cancer*.

Cancer is of greater frequency at ages over 40 than tuberculosis, pneumonia, typhoid fever or digestive diseases. One person in eleven dies of this malady. One woman in seven and one man in eleven over 35 years of age is attacked by this disease. Largely through ignorance and neglect, cancer now proves fatal in over 90 per cent. of the attacks, excluding a small per cent. of epitheliomas seen and removed early. In 1913, cancer killed 75,000 people in the United States. Of this number 30,000 died of cancer of the stomach and liver, 12,000, cancer of the uterus and other organs of generation, 7,500 from cancer of the breast and about 25,500 from cancer of other organs and parts. This disease respects neither race, creed nor social position. It is the common enemy of all mankind attacking rich and poor alike.

We were taught at one time that cancer was only to be found where civilization went, but a careful study of the question in all its phases proves this to be erroneous. Cancer is commonly observed in the Savage Isles, and according to governmental reports is present in both plant and animal life, and alarmingly on the increase along all lines.

Only a few years ago before Vital Statistics were thought important enough to be mentioned, let alone placed on our Statute Books, we would have denounced as an untruth the cold fact, "and a fact it is," that of the women who live to be 45 years of age one in every five must die of this loathsome disease in some form.

If a storm, flood, or rapidly fatal epidemic should within a comparatively short time destroy the population of this little city, what excitement, sorrow, and grief would exist in the hearts of innumerable people directly and indirectly interested.

The daily press through its many and various associated press agents, would herald wide the news, and scarcely an issue from Maine to California and from the Great Lakes to the Gulf would roll from the rapid press but what would have in blazen type on its frontice page some such headlines as: "Horrible Disaster," "The Great Calamity" Yet in the quiet march to certain death there proceeds this hour a number two and a half times larger than this city, and nearly one fourth as large as Louisville or Cincinnati. To this number twice as many more as die each year must be added to reach the great mass that is afflicted, and no attention is paid by the laity, the press, or the pulpit and may I say practically none by the profession as a whole.

Aside from the regrets of friends, the sor-

row and solicitude occasioned in the homes of the afflicted, there occurs to the nation a monetary loss estimated at \$1500 for each death, or total of \$102,500,000; to this must be added the wage earning power of the individual for at least 3-4 of a year before death, reckoned at \$1.00 per day, also \$1.50 per day for food, nursing, medicine and attendance, making a sum of nearly \$154,000,000 loss yearly. To this the loss of a father's advice and a mother's love must be added, which are inestimable.

As a profession holding the lives of the nation in our hands, are we equal to the cry of human souls to save them from this malady? If history is to be believed, with the cooperation of the laity, much can be done. Smallpox has been mitigated until it no longer claims its thousands in death and disfigurement. Yellow fever has been driven from our shores, malarial controlled and the Panama Canal made possible, thanks to a member of our profession, Col. Gorgas.

Even with the waters of the Bay of Rotterdam so thoroughly impregnated by cholera vibrio as to enable the bacteriologist to obtain almost a pure culture yet no fear is felt of invasion. What a triumph for medicine.

While we are no nearer the essential cause of cancer than we were a century ago, eating of tomatoes down to fish and other meats, we have established certain truths, viz: the prevalence and duration of cancer and what constitutes a favorable soil upon which this condition begins its growth, and some of the things at least, that influence its growth.

PREVALENCE.

Who of us knew, only a few years ago, that the pearl we so much prized, was the product of an abnormal growth in its hosts, such growth being the direct result of irritation, so also many tribes of fish are attacked in the hatcheries by rapid cancer formation, in spite of Governmental efforts.

In the Auckland Society Trout Hatchery Bonnett (Berliner Klinische Wochenschrift, 1905, page 1435) reports more than 3,000 cases of cancer in four months.

Lizards, reptiles, birds and frogs suffer frequently from cancers, as does the horse and many domestic animals. Much interesting and valuable work has been accomplished in the Chicago Laboratory relative to heredity and transmissibility of cancer in mice and rats. The findings and conclusions have been severely questioned both at home and abroad, yet they cause you to think seriously and the work was thought well enough to be awarded first prize this year at the meeting of the American Medical

Association at Atlantic City. How much direct bearing this has on cancer in man remains to be seen. It at least proves the frequency, and the selection of special tissues which conform to those in man.

Turning to plant life we find many varieties of fruit trees are destroyed by a malignant growth produced in the host by irritation from stings of various insects, a cancer to that tree.

The beautiful carnation, the favorite flower of one of America's honored sons, suffers at its most vital point from a growth resulting from irritation and conforming to the sarcoma in man.

The sugar-beet industry is now being threatened not only in Europe but in this country as well, by crown gall, or plant cancer. So destructive has plant cancer become that the Department of Agriculture through Erwin G. Smith, pathologist, in charge of Laboratory and Plant Pathology, issued in 1911 and 1912 bulletins, giving in detail the finding of their investigations and after a most careful study, concluded that plant cancer contained the following points of morphological likeness to animal tumors.

(1). A peripheral growth of tumor cells, out of preexisting tumor cells, with absence of any capsules or well defined limit to growth. The growth is injurious and extra-physiological and exactly as in human cancer, the cell itself is the only visible parasite.

(2). The existence of a well-developed supporting stroma.

(3). The formation of tumor strands which extend the primary tumor in various directions.

(4). The development of these tumor strands into secondary tumors, which have the structure of the primary tumor even when they are located in other organs.

(5). The existence of giant cells, i.e. cells which contain several nuclei, and of rapidly proliferating anaplastic cells.

(6). The occurrence of many anitotic nuclear divisions and of occasional abnormal mitotic divisions.

A needle prick will produce enough stimulus in these plant cells to give rise to a mass of soft tissue which is not encapsulated, the cells of which infect other cells. So the process goes on indefinitely. This behavior of cells corresponds exactly to our views of malignancy in the human body. How carefully do we guard the rough handling of the supposed cancer breast in making an examination to say nothing of the care that must be exercised in any attempt at removal. This same gentleness holds true of cancer in all parts of the body.

From time almost immemorial irritation has been recognized as the one thing most often producing rapid and uncontrollable division of cells. Some of the most striking examples of what irritation will do, are seen in the cancer of the chimney sweep, and in the mouth resulting from a rough and jagged tooth.

In cancer of the breast, all statistics tend to show that women who have borne children compose nearly 90 per cent of the cases. Again in cancer of the uterus those who have extensive tears following delivery are the ones later in life to succumb to malignancy beginning in the cervix.

Bainbridge has shown instances where omental bands drawn snugly over the gut, had beneath them a cancer in the intestinal wall. At least very suggestive that the cancer owed its origin to this irritation. So also are the Kangri burn cancer of the Kashmir natives examples of irritation as a possible cause.

Can anyone doubt for a moment that if the Kangri fire baskets were not worn by the natives of Kashmir, that this particular form of cancer would exist. So also must the smoker pay with his life, the price for the irritation of his lips, likewise, the natives of India for the use of the Betel nut. Every cancer has as its beginning some form of irritation producing a precancerous lesion or stage.

Does this line of thought, looking toward the solution of the cancer problem, apply with equal force to internal as well as external malignancy?

A study of living pathology made possible by the introduction of asepsis and anesthesia teaches us that all precancerous conditions depend upon irritation either external or internal.

Many surgeons for years have proven the dangers of gall stones in irritating the gall-bladder, showing that those who persist in keeping them, have eight times the chances of death from cancer as those who have them removed.

As the mortality from early removal is less than 1-2 per cent., this thought should sink deep into the hearts and minds of the sweet oil and other medical advocates, and produce at least an awakening of their consciences.

The stomach which furnishes nearly 1-3 of all the cancers of the human body has many sources of irritation, the chief of which is ulcer. (See Paterson's work on stomach diseases, Wm. Wood & Co.)

Anyone doubting that irritation plays a large roll in gastric cancer may satisfy his doubting mind by feeding some rats on cock roaches infected with nematodes which cause a chronic irritation of gastric mucous mem-

brane, or make a careful persual of the exhaustive study of this particular question as it appeared in the *Berliner Klinische Wochenschrift* of February 17, 1913, by Fibiger.

Kidney epithelial cancers, according to many, have in most instances as their excuse for pathological chances the presence of calculi.

Equally interesting as the above facts, is the study of cancer duration.

All malignant growths possess the following history before operation:

(1). The time during which the presence of the growth does not attract the attention of the host.

(2). The time consumed by patient in waiting before seeking medical advice.

(3). The time consumed by the physician in making a diagnosis.

It is imminent to all that nothing can be done to shorten the first stage, except education of the public so that regular and frequent examinations can be made and cancers detected early. To shorten the second stage, the public must be educated to the fact that all tumors are curable, that the possibilities and probabilities of a cure are in direct proportion to the promptness and way treated. Every one must know the potential dangers of delay, that a wart on the lip may and does take on malignancy in a very short time.

The soundness of educating the public has been tested in Germany by Winter and Von Dührssen who through the secular press have sent out warnings to women concerning cancer of the pelvic organs, with the result that many consult not only them, but other physicians regularly several times a year to be examined.

The time has come for a social awakening of the realization on the part of the good citizen, that he is his brother's keeper, and that active altruism must supplant selfish inactivity and indifference. Therefore the time is ripe to call the laity to our aid, and already the first steps have been taken toward this end.

The National Association for the Control of Cancer, organized in New York some time ago had for its object the education of the laity and general practitioner in the splendid results obtained by early interference. This education is needed by both the optimistic laity and the conservative physician, who when he sees a tumor in the breast says, "*Do not trouble it until it troubles you.*" If he sees it in the spring he says, "*Let me see it again in the fall.*"

Take cancer of the breast as example of what can be accomplished by shortening the second period. The woman who subjects herself to an immediate operation upon discovery of a tumor in her breast, her chances of

cure are 85 per cent, with a possible 100 per cent. After the growth has been developed to where a diagnosis is easy to make, her best chances of a cure are only 64 per cent in the adenocarcinoma and if the growth is a more malignant form only 33 per cent. The danger is really greater than this for the reason that the neoplasm may so extend that no radical operation can be performed.

To shorten the third stage, the surgeon must feel the new requirements for diagnosis and fit himself for the task. The question is at once asked, "*How can the surgeon acquire this ability to recognize lesions at sight, with the naked eye?*" In reply may I ask, "*Is it not a fact that surgical technique is in advance of surgical diagnosis?*" The minutest details of operating are taught the students and nothing said about diagnosis, the indication for and contra-indication to operation.

The young medical graduate intoxicated by the glare of brilliant surgical achievements during his brief stay in school, is maddened with a desire to do surgery. Little or nothing is known by him of diagnosis; can you wonder why he fails so often?

The remedy lies in every surgical clinic giving daily instructions in diagnosis, teaching living pathology. It must have a pathological laboratory in which every case is determined positively, no guessing to be made.

The result to be hoped for in malignant tumor surgery depends entirely upon the knowledge of living pathology, on the part of the family physician, who sees the case in its early stage. It is this knowledge of living pathology that instills the science into medicine.

Interpreting living pathology is the lesson learned at the operating table and the mortuary slab. With it you no longer wait for terminal symptoms, but are able to study the infinite changes wrought by disease and to locate the broken link that severed the chain of life.

If we are to accomplish anything worth the while in awakening the profession to a realization of duty to their clientele looking toward the control of cancer, it must be done by other methods than those of the old time amphitheatre style of instructions. The doctor of to-day must be one who has been in active cooperation with those well trained, if he expects to acquire that diagnostic acumen, the keen eye, the discerning ear, the *tactus cruditis* and manual dexterity required to know conditions at sight.

The physician's knowledge must be so coordinated and correlated as to be available for instant use.

Trained physicians, however, can do nothing unless the public can be made to under-

stand the dangers and come early for an opinion.

In attempting to shorten the second stage of cancer, viz: the time consumed by the laity after finding they have a growth before consulting a physician, an education is absolutely necessary; just as the wide crusade that has been made in the effort to control consumption.

This great and commendable work must be done to such an extent, that the laity will no longer believe, may I say stand for, many periodicals both secular and religious, publishing as they now do, in glaring type, misleading, yes, vicious advertisements of so-called cancer cures, *which rarely or never cure.*

Bainbridge was correct when he said this education must extend to the medical college, operating room, to the business office and to the legislative hall, as well as to the home.

The public has a right to, and a need for, enlightenment in medical matters. How often do we hear those whom we are asked to treat, discussing freely subjects, that only a few years ago were never talked of save in the consulting room.

Take, if you please venereal disease, the educational dawn of which is just beginning to break. Even now Mary's future husband's ailments that he may have had, concern the correctly educated, and proper thinking girl more than does his bank account.

In conclusion let me say; in Kentucky with a Health Board active, sending out bulletins regularly to thousands, let them devote a liberal share of space to the cancer problem. Let each physician become a missionary among his own people. Ask the pulpit for an hour four times a year devoted to public health work. Illustrate your talks, if possible, by lantern slides. Get the various Women's Clubs to take the matter up and help to make a world wide crusade, we will then have won that welcome plaudit, "*Well done thou good and faithful servant.*"

Drop Heart.—Greene maintains that contrary to current belief both drop heart and its chronic dilatations are extremely common and, indeed should logically be anticipated in view of our present knowledge of the musculature of such hearts.

They have been hitherto overlooked because of the natural tendency to accept as the normal a standard of measurements far in excess of the drop heart normal and a failure to apply the simplest of therapeutic tests.

Another cause of general oversight has been the absence of serious symptoms of incompensation, apart from dilatation, and the decided dominance of subjective manifestations.

ORIGINAL ARTICLES

THE ANATOMY AND PATHOLOGY OF ACUTE INTESTINAL OBSTRUCTION.

By GEORGE A. HENDON, Louisville.

ANATOMY.

There is no more fertile field in medical science than that which is indicated by the caption of this article, affording as it does opportunities alike for the clinician and the physiologist, also the pathologist. This fact is attested by the extensive literature bearing on the subject. Hence it is impossible for me to give a complete review of the literature within the proper scope of this paper.

The anatomic features are best presented in the article by Dr. G. A. Monks in the *Annals of Surgery*, Vol. 42, page 543. The striking features of that essay are (a) the relations of the mesenteric borders to each other with reference to length; the attached border shows but six inches in extent and the free border twenty-three feet, thus producing a typical fan effect; (b) the fact that the unattached intestine distended is a perfectly straight tube; (c) the method demonstrated for determining the distal and proximal directions of a coil of small intestine.

There are certain anatomical traps or snares in the cavity which imperil the integrity of intestinal circulation that deserve special notice. The upper border of the mesentery containing the superior mesenteric artery is responsible for gastro-mesenteric obstruction which results in acute dilatation of the stomach and is now recognized as one of the post-operative complications to be reckoned with. The experiments of Connor and Kelling, confirmed by the observations of Bloodgood and Finley, prove the liability of the duodenum to be pinched or kinked beneath the mesenteric border in front and the aorta and vertebral column behind and producing acute dilatation. The site of constriction may be above or below the ampulla of Vater. The situation of the constriction with reference to the ampulla plays an important role in determining the rapidity of the progress of constitutional involvement. The experiments of Maury upon dogs seem to point toward a marked toxicity of the retained biliary and pancreatic secretions.

Again, what is known as left duodenal hernia takes place with the inferior mesenteric vein and left colic artery bounding the

neck in front. Hernia into the foramen of Winslow has been recognized in eight cases; also hernia through abdominal openings in the mesentery and broad ligament have occasionally been observed (Moynihan). For an exhaustive study of retroperitoneal hernia the reader is referred to Mr. Moynihan's article on that subject.

This essay is not designed to deal with obstruction produced by malignant growths, because that is a chronic variety in the majority of cases. The ileo-cecal junction is celebrated as a hot bed of obstruction, the appendix many times furnishing the constricting band. A case has been observed by the writer in which the appendix had become attached by its distal end to the parietal peritoneum and imprisoned a loop of gut, which resulted in strangulation and gangrene.

At the ileo-cecal junction the anatomical elements are almost perfect for intussusception to occur. A large sacculated intestine joined by a tubular formation about one-tenth the diameter of the sac and superimposed upon its yielding walls and propelled in a downward direction by the peristaltic movements, the relationship of intussusceptens and intussusceptum is more easily established than the statistics seem to warrant. The ileo-cecal valve also furnishes a narrow strait in which to lodge foreign bodies such as enteroliths, gallstones, etc. I think it is the custom of every operator to examine this region immediately upon opening the abdomen for obstruction of the bowels. The following maneuver is advised by Monks for reaching and identifying the lower extent of the ileum: "Carry the forefinger over the psoas muscle and iliac vessels keeping the finger tip close to the parietal peritoneum and so entering the pelvis. The finger is then turned on its own axis and hooked upward. The peritoneum at the back of the pelvis being followed carefully in this procedure, the finger usually goes behind the ileum, entering the cavity on the left side of the mesentery where the finger comes against the lower end of that structure; the thumb and forefinger close upon each other, grasping what is between them. When this is brought from among the coils of intestine it will generally be found that it is a loop of the ileum quite close to the ileo-cecal valve." Next in the scale of regional importance is the sigmoid, famous as a site of volvulus, the omega shape assumed by this portion of gut especially predisposing to twists. There is here a woeful lack of proportion between bowel and mesentery. The tortuousness of the intestine admits of great extent of mesentery; the mesentery springing vertically from its parietal attachment to join the concave surface of the bowel arching

above it. This gives the architecture of a long stem and a sudden wide expansion, an arrangement which readily admits of the expanded portion being set in rotary motion by the peristaltic wave and twisting the stem to strangulation. After strangulation has supervened the intestinal wall becomes charged with venous blood and gangrenous drops limp into the pelvic cavity.

One other location now and then referred to as the site of an obstruction is Treitz' ligament. Here a knuckle of small intestine is pinched beneath the thickened fold of peritoneum which forms the ligament. The various sites for hernia through the abdominal wall may also be included in this list of anatomical traps for the unwary.

PATHOLOGY.

There are three kinds of obstruction: (1) Obturation; (2) Strangulation; (3) Ileus. There are always three currents to be reckoned with in obstruction: (1) Fecal current; (2) Vascular current; (3) Nerve current. The circulation of three structures is involved in the above proposition: (1) Intestinal wall; (2) Mesentery; (3) Omentum.

Clinically the subject of obstruction is broadly divided into acute and chronic. In this essay only the acute variety is to be held in mind.

Obturation should be reserved for the class of cases in which the interference comes primarily from within the lumen of the gut, the best example of which is found in the enterolith or large gall-stone or other foreign body; also coprostasis and tumor formation.

At the recent meeting of the American Medical Association Dr. Miles F. Porter reported a case and exhibited a specimen of almost complete obliteration of lumen by the gradual hypertrophy of the mucous lining of the small intestine.

In the case of enteroliths, whether of intestinal or hepatic origin, they generally lodge in the lower ten or twelve inches of the ileum and cause occlusion by producing spasm of the circular muscular fibres rather than by jamming the gut. Cases are reported of the enterolith rolling about in the intestine perfectly free, while below the gut is closed as by a band in short spasmodic stricture of the gut. The pathology is different when the bolus is arrested at the ileo-cecal valve. The anatomical conditions present a sudden change in size and shape of the channel through which the projectile is asked to transverse. The channel has hitherto been cylindrical and of fairly regular diameter and the bolus has largely been adapted to those proportions. The ileocecal valve presents difficulties as regards shape and size which become insurmountable and a jamming result is

enforced. Foreign bodies accidentally swallowed rarely cause obturation, because any mass that can pass the pylorus will traverse the remainder of the alimentary canal.

Coprostasis: This contingency is most likely to occur in the sigmoid or cecum, though it may take place at any part of the colon. Physiological as well as anatomical features favor these localities. Fecal impaction to the point of occlusion is seldom seen. I have never met with a case in my own experience, nor do I remember having seen any such reported in the literature. I do not refer here to cases of fecal accumulation in the pouch of the rectum. Hair balls and intestinal parasites should be remembered as means of intestinal occlusion.

Obturation ultimately leads to the next degree of interference, which is strangulation; or it is more logical to say that strangulation is a contingency which causes arrest of both currents, blood and fecal. One is indeed confronted with a formidable task who undertakes a description of the numerous and multiplied factors which produce intestinal strangulation.

Volvulus: This is most frequently seen at the sigmoid for reasons already noted. The term is more used in connection with a twist of the mesentery than a torsion of the intestinal tube. In such event as the former the problem is primarily one involving the circulation of the bowel. I am not prepared, nor am I permitted by the bounds of this essay, to enter a discussion of the etiologic mechanics of volvulus. One who has looked within the abdomen with a trained eye has but to reflect a moment to realize how some disturbance of relationship may precipitate the disaster. A case recently came under the writer's care in which a farmer, aged 68 years, was assaulted by a dehorned bull. The infuriated animal after knocking his victim down continued the assault by rolling him over and over on the ground and kneeling upon his chest. In addition to a dislocated clavicle, fractured breast bone and several ribs broken, the unfortunate man had a volvulus of the small intestine. This was promptly relieved and he made a perfect recovery. He died six months later of pneumonia.

When the mesentery of a loop of intestine becomes twisted the nutrition is cut off, but always enough blood remains to determine the resulting gangrene, as moist. Heus quickly supervenes in adjacent coils of the intestine and the well known picture of obstruction is rapidly portrayed. Torsion of the mesentery can hardly occur, I think, without one or more sharp kinks in the bowel, a factor which adds mechanical arrest of fecal current to stoppage of the blood flow. This element,

however, must be eliminated after gangrene with its paralysis supervenes, unless the apposed surfaces become adherent. This is not probable when the adhesive reaction is not sustained. If one recalls the similarity of the mesentery in form to that of a lady's fan one can perceive how a ramification or two becomes folded upon itself as a result of inflammatory action carrying along its attached segment of bowel producing therein acute turns of the gut and resulting in arrest of both currents, causing gangrene without torsion. Such occurrences are not uncommonly reported most often in connection with the sigmoid.

Volvulus inevitably terminates in ileus, and is especially characterized by extensive gangrene of the bowel.

Intussusception: This is a pathology of childhood. Its symptoms are characterized by insidiousness. The mechanics include an intussuscepiens and intussusceptum; the former receives and embraces the latter. The intussusceptum continues to obtrude itself into the embrace of the intussuscepiens until the latter forms a constricting band at the ring of entrance and complete obturation and strangulation occurs. Cases of intussusception have been known to recover spontaneously by the constricting ring accomplishing amputation of the intruding loop. Specimens four or five feet long have been exhibited. The favorite site of intussusception is the ileocecal junction. The big gut literally swallows the little one.

The classical factors for the production of invagination are too well known to merit extended notice before this body. If unrelieved intussusception is engulfed in ileus as a final termination.

Kinks and Bands: Separate discussion of each form of this class of interferences would lead us too far afield and beyond the scope of this essay. For the sake of directness, these blocks will be referred to as obstruction by constriction and deflection, or it might be better to qualify by saying elastic constriction. Under this classification would fall all forms of strangulated hernia; post-operative bands and adhesions; vestigial bands, anatomical intersections; omental cords and diverticula. All forms of obstruction and strangulation, if unrelieved, finally lead to that spectacular ensemble of pathological symptoms known by the general term of ileus.

Ileus is interpreted as an intestinal paralysis and arises out of a multitude of causes aside from mechanical stoppage of the intestinal currents. To appreciate ileus one must realize the condition as purely an innervation of the intestinal wall. There are different degrees of innervation up to complete loss of

muscular power. The lack of power may be circumscribed or general. Segments of different lengths of intestine or separate anatomical regions being involved either alone or successively. This loss of power may proceed from depressing influences exerted upon the central nervous system and conveyed through the splanchnics, pneumogastric and phrenic or local by action upon the contained ganglia in the intestinal wall. The former is spoken of as an adynamic ileus; the latter dynamic ileus. This distinction is of academic interest only. Among the influences of central origin the most prominent are sepsis and shock, also definite lesions in the brain and cord. The more conspicuous local influences are injuries and infections of the peritoneum and viscera and the various forms of intestinal obstruction already deserve special notice in this connection. It is also well to observe that paralysis of a segment of the bowel will produce obstruction as effectually as a constricting band or a twist. The gut of ileus is distended. The distention is, owing to loss of power in the musculature also accumulations of gas and fluid which occurs in enormous volumes. The gas is the product of intestinal flora, which multiply in geometrical proportions as soon as a stoppage of the intestinal current takes place. The fluid, which is yellowish, soupy and foul-smelling is the product of intestinal secretions morbid in character and vastly increased in quantity under the stress of relaxation and septic irritation. The consequent stretching of the intestinal wall results in circulatory embarrassment, in consequence whereof areas of necrosis appear upon the peritoneal surface and extend their borders, coalescing with each other until a complete gangrene of a whole segment of the bowel is established. In the very beginning of the process the alteration of the structure of the intestinal wall allows the escape of bacteria into the general cavity, and, under stress of pressure, they are rapidly absorbed by the lacteals and emptied into the circulation to poison the blood stream.

McClure and McCallum have shown by their experiments that death can occur from absorption of these poisons alone. It is remarkable how slight a degree of peritonitis will stop peristalsis in the cachectic and anaemic. (Munro).

Cannon and Murphy's experiments prove the baleful effects of manipulation of the viscera. There is no single element so productive of post-operative ileus as to have the intestines pawed over by the surgeon and his assistants. In the same category, but not nearly so important, is the extensive use of gauze during the operation and afterwards as

a drain. Exposure of abdominal contents is a powerful factor. I have never seen an eviscerated patient escape with his life. When a segment of the bowel is involved reverse peristalsis is a phenomena in localized ileus, the same as if the bowel were occluded. This reverse peristalsis occurs in all cases of obstruction and accounts for the persistent and uncontrollable vomiting so constant a symptom in this malady. Ulceration as a result of the distension in the bowel have been observed by Koehler, and further confirmed by McCallum of Baltimore. These ulcers appear on the mucous lining of the gut.

INTESTINAL OBSTRUCTION.

By GEO. A. HENDON, Louisville.

The importance of a study of this malady can scarcely be exaggerated. There is no disease, not even cancer, in which an early diagnosis is so important. In obstruction we measure time by hours, in cancer by weeks. Like cancer it is in the beginning purely a local disease and its cure involves the simplest of mechanical principles, with the advancement of time it becomes systemic and its treatment involves the most complex of pathological problems and the prospects of cure fade with most amazing rapidity. As the diagnosis exceeds in importance the etiology it will be primarily considered.

The symptom first to attract attention is abdominal pain referred to the epigastrium. The pain is first characterized by intermittency. It is acute, sharp, lancinating. Later it becomes constant with sharp exacerbations with closer and closer intervals.

The acute periods being synchronous with the peristaltic wave. The next symptom of importance is notably increased borborygmus due to the violence of the effort of the intestine to force the fecal current past interference. Next in order of appearance and importance is emesis, which at time of onset bears a direct ratio to the distance of the interference from the pylorus. Let us, for clinical reasons, divide the subject of diagnosis into three hour intervals because that is about the average time after onset the patient is first seen by a physician, and at the end of the first three hours the prevailing conditions are but slightly modified as compared with initial symptoms. In this first chapter of physical woe pain is the opening paragraph. Next to pain in point of importance as a symptom and order of appearance is excessive borborygmus. Upon practicing auscultation

temperuous sounds are heard in the cavity indicating the struggle of nature in her effort to clear the passage. Vomiting is the third important sign is likely not to appear in the first interval if the obstruction is below the ileocecal valve, or if the patient has an empty stomach at the time of onset or refrains from taking food after his symptoms begin. If vomiting does occur, however, the material will consist, first, of gastric contents, second, of duodenal contents. I would lay special emphasis upon the presence of any food in the stomach at the time of onset or subsequently as an determining factor of vomiting. Semm long ago called attention to this fact. He noted in his experiments on dogs that they invariably refused food and that vomiting among them was rare as compared to the human subject.

The fourth symptom tympany is variable in the first interval and its absence is not significance but its presence correlated with the foregoing does much to complete the picture. Percussion is of small service in locating the point of the lesion unless it be an intussusception or a tumor.

The collapsed bowel drops into the pelvis and the distended portion fills the abdominal cavity, hence a tympanitic note is elicited over the entire abdomen if no tumor is present.

The fifth symptom is marked inability to expel flatus. The bowels may move but no flatus if the obstruction is complete. In this connection I wish to offer the advice that if flatus can be expelled strong purgatives are admissible, but should be withheld upon inability of the patient to pass gas. The test is to give a soap suds enema and if in the expulsion of the enema gas escapes a fair and faithful trial with purgatives is permissible before advising operation.

At the end of the second interval, or six hours from the onset, the symptom above described are exaggerated, especially the tympany. The pulse is materially affected, being rapid and feeble. The temperature arises to about 99 degrees or 100 degrees. Respiration begins to be distinctly thoracic. The vomit contains more duodenal content.

At the end of the third interval, or nine hours from onset, exaggeration of preceding symptoms is well marked and the change is noted in the character of vomit as containing a larger amount of succus entericus from the jejunum as evidenced by its dark green color. The stomach at this stage begins to be visibly dilated, the respiration shallow and rapid, and pain is quite constant. If the obstruction is the obturated variety the patient shows but slight degree of muscular exhaustion and is able to sit up or even walk around the room

if he is otherwise well. At this time there begins decided reverse peristalsis and the vomited material is larger in quantity, more acrid and begins to have a fecal odor. Pain is intense and the pulse shows marked signs of vasomotor disturbance.

After this period is passed, the first twelve hours, there appears the evidence of systemic intoxication. By this time the wall of gut above the obstruction becomes pervious and allows the intestinal flora to flood the peritoneal cavity. The condition of the patient during the next twelve hours is governed by his power to resist the poisoning of the toxins. There is great distension, prostration, cold extremities, cold nose and copious vomiting of intestinal contents with decided fecal odor. Borborygmus is lessened or absent.

Suppression of urine sets in and complete obstipations supervenes. From this time the contest is fierce between the toxins and natural forces and the weight of a feather will turn the tide of battle the wrong way. I shall not enter a description of the succeeding twenty-four hours, as it is familiar to every doctor, and a more harrowing picture could not be imagined. The clinical picture in the early stage is much influenced by the character of the interference, therefore let us look now at the pathology which involves a study of the factors engaged in producing the obstruction. Let us remember there are three currents, the cessation of either or all three may be the elements of obstruction. The fecal, the vascular, the nerve. In the first the symptoms are most insidious. In the second the pain and vomiting are most violent; in the third systemic effects are soonest noticed; when all three exist simultaneously the gravity of the situation is apparent at a glance. The age of the patient is quite a factor in determining the character of obstruction. In children, the variety known as intussusception predominates. In adult life obstruction by band is most frequent, and in old people volvulus and enterolith are oftenest encountered. By the same tokens we are enabled to form some idea of the geography of the lesions. If the subject is a child we may argue that the condition is one of intussusception and the most frequent site is the ileocecal junction. If the subject is in adult life, we argue that the obstruction is most likely produced by constriction of a band and the most frequent band is the remains of the omphalomesenteric duct situated near the umbilicus, next in frequency is a degenerate appendix which serves a band like effect.

If the patient is in advanced life and the onset has been sudden then torsion of the mesentery of the sigmoid is most probable if the onset has been insidious obstruction by

enterolith situated somewhere in the lower twelve inches of the ilium is most likely.

If the symptoms occur secondarily to trauma, or recognized intra-abdominal lesion ileus is most probable. Looking now at the subject from the etiologic point of view in a diagnostic sense; first, if the vomiting, tympany and borborygmus is disproportionate to the muscular exhaustion and vasomotor disturbance and vital depression, obstruction of the fecal current alone is the rule.

If there is absence of constipation great distension, little vomiting, severe pain and great prostration, interference with the circulation, alone, as in mesenteric embolus is a warranted presumption.

If there are mucus discharges from the rectum with accompanying symptoms and the presence of a tumor or definite area of dullness intussusception is to be suspected. In strangulation by band and volvulus all three currents are blocked, hence the symptoms present a compound of the symptoms mentioned above. Morbidity, or what, kills the patient? Answer, systemic absorption of toxins. The absorption takes place from both the mucous and serous surfaces. The poison is generated in two ways, (a) by intestinal flora, (b) by altered glandular secretion. That which is taken in through the serous surface is the bacteria derivatives, they enter the peritoneal spaces through the wall of the diseased bowel while the glandular secretion remains within its mucous lining and are absorbed by the mucous surfaces. The succus entericus is altered largely in quantity and essentially in quality, having been converted by the disturbed hormones into a highly pathological fluid with decided lethal properties. These properties are seen in its action upon the skin which it burns and excoriates wherever it touches, but the mucous membranes seem to enjoy the relative immunity so far as macroscopic destruction of tissue is concerned.

It is well to remember that the lethal effects begin to be manifested and exerted long before the vomited material becomes stercoraceous. I mention these factors because I do not believe proper emphasis has heretofore been laid upon their action. In the event of the gut becoming strangulated and, in consequence, gangrenous, the saprophytes add their contribution to the sum total of disaster.

Pathology in Brief. The most important element to consider under this head is the wall of the gut above the point of obstruction. So long as that remains impervious the systemic symptoms are milder and insidious. The moment the integrity of the gut is lost, great vital prostration is apparent; indicating the wonderful superiority of the serous over

the mucous surface as a medium of absorption. Consequently, those forms of obstruction that interfere with the circulation in the gut wall are characterized by the more rapid signs of constitutional toxæmia. It is to be remembered, however, that blocking of fecal current by obturation leads to septic thrombosis of the mesenteric branches in the vicinity, and in consequence a segment of bowel wall much greater in extent than that directly passed upon by the obturating force is damaged. Hence the advice never to remove the obturating body through an incision immediately over the place where it is situated.

It is, however, in primary thrombosis of a mesenteric trunk that the greatest degree of gangrene occurs.

TREATMENT.

The most important consideration in this connection is the removal of the bowel contents, thereby relieving pressure from within upon the wall of the gut, also relieving it from the chemical effects of the pathological secretions. Taking away these morbid influences lessens the perviousness of the bowel to bacteria.

Therefore, with the idea of evacuation *dominant* we begin to consider therapy. Keeping in mind that the importance of evacuation applies oral to the point of obstruction. Obviously the most accessible portion of the alimentary canal to reach with that aim in view is the stomach; moreover the stomach is always above the point of obstruction.

Hence, the first step is to withhold food. I do not think, however, this should apply to water, because what water might remain acts as a dilutant. On the contrary, food of any kind furnishes a pabulum for bacterial growth and in the process of its decomposition liberates gases which add to the distress of the patient.

The next step is to empty the stomach by gastric lavage. This should be done also as a preparatory measure to operation; for, under ether the patient may vomit a great volume of acrid fluid some of which enters the bronchi and produces death by strangulation, or later, by septic pneumonia. The next step is to empty the bowel below the stomach and above the site of interference. This, of course, necessitates an abdominal section. With the abdomen open, if we can liberate the obstruction and see the bowel contents pass along with a peristaltic current we have an ideal case, but too often paresis has supervened and the bowel remains as much distended after the obstruction has been released as it did before. In that event the course to pursue is plain. Release the bowel and empty its contents by introduction of a tube through an incision

upon its convex border or by multiple incisions closing the same after the bowel is emptied. This point I regard as of the highest importance because I have never seen a recovery where the bowels were returned to the cavity in a state of distension even if the obstruction was removed.

When a more complex affair is encountered our method of procedure should be quite different. In late cases where great vital depression supervenes and the least shock is mortally feared the abdomen should be opened under local anaesthesia and the first loop of bowel to appear is brought out of the wound and fastened by sutures then opened for the evacuation of its contents. If, in consequence, the patient improves, the point of obstruction can be dealt with at a subsequent period. In presenting the part of the subject that deals with the management of the point of obstruction, I shall not go into detail, but will refer briefly to the question of resection. This question is easily answered theoretically, but not so, clinically. It is quite simple to advise that if the portion of bowel acted upon by the violence which caused the obstruction has its vitality destroyed it should be resected. But as yet no one has been able to set an infallible rule to follow in determining the viability of the injured bowel. Of course we know when a gut is black and feels like leather it is dead. By the same token, we know that when a gut is pink and lustrous it is viable. But there is a vast territory for speculation and doubt between these two boundaries. Therefore, if at operation I cannot be convinced either way by the well-known experiment of hot saline application it is better to pack suspected segment outside the cavity where it can be watched and resected later if vitality is not restored. Another procedure of great value in desperate cases is to short-circuit the bowel in its healthy structures above and below the dead bowel, leaving the affected loop outside the wound to be amputated at a later period. This method is a great time saver and shock absorber. In performing the operation as little anaesthesia as possible should be used. This can be reduced to the minimum by injecting the line of incision with cocaine or novocain solution.

Another practical point is that the amount of time spent in searching for the obstruction should not be excessive. The patient should not be eviscerated. If failure to find the obstructed point seems inevitable on account of bowel distension this difficulty can be removed by emptying the bowel as above described. It is also worth while remembering that the pelvic cavity contains the collapsed bowel or that below the obstructed point while the dis-

tended bowel or that above the obstruction occupies the abdominal cavity proper. I always make a median incision unless a tumor is plainly discernable and search first in the right iliac fossa then beneath the umbilicus for a Meckels diverticulum, then in the sigmoid region. These are the chief localities for obstruction. This paper does not contemplate the various strangulated herniae that produce obstruction or neoplasms or post-operative or traumatic conditions. The post-operative treatment consists in the Fowler position, proctoelysis and gastric lavage and all the water the patient can retain. And feeding is instituted on the third day after operation by allowing orange juice and egg albumen. I do not regard enemata or purgatives either before or after operation as part of the treatment. But I do include them before operation as means of assisting the diagnosis. If a response is made to enema or purgatives there is no obstruction.

After operation and release of the bowel movement will occur spontaneously as soon as the gut regains its normal tone.

Until it gains its normal tone no amount of purgatives will avail.

THE MANAGEMENT OF LABOR IN COUNTRY PRACTICE.*

By G. G. THORNTON, Lebanon.

This is a subject which should always appeal to the general practitioner, because, like the poor, we always have it with us, and because we can not often turn it over to the specialist and in most cases it is up to us to make good—and that often by ourselves, so far as skilled assistance is concerned.

In times not so very long ago, and in some instances even now, we have been so handicapped by ignorance and prejudice in the patient and her friends, that it was hard to do the right thing or to get the right thing done.

I am sure that most of you have been told by some wise old grandmother when you have suggested that you might need to use instruments in the case that they believed in letting nature have her course, or when you proposed to give chloroform or something else to alleviate the suffering have been met with the theory that as it was natural for a woman to suffer they believe in allowing her to do so.

It has been ours to do much missionary work in educating those with whom we come in contact away from this ignorance and prejudice and there still remains much to be done.

When first spoken to in regard to attending a case of confinement, especially in a primi-

*Read before the Muldraugh Hill Medical Society.

para, it is not only well, but it is necessary, that we should tell the husband some of the things which he should know and some of the dangers which are to be avoided, and to impress on him their importance. Of course it is entirely unnecessary for me to say to you, a body of modern doctors, that the kidneys and bowels should be looked after, especially during the last months of pregnancy, but if your experience corresponds with mine I am sure that you will testify that most of the cases that you are called on to manage have entirely ignored the kidney function, unless there has been some pain or burning attending urination, and often the lower bowels are found loaded with fecal masses. Here lies a field for more missionary work. Another thing which I believe every pregnant woman should have impressed upon her, is the importance of a full bath as soon as labor is on, and especially of a thorough bath of the external genital organs. Why should the doctor be so careful of his hands as regards their sterility, if he is to pass them over a foul perineum or between filthy labia?

Another field for our labors is in teaching women how to prepare the bed to protect it and keep it clean during and after labor. Practically all of my patients that I attend for the first time, have an oil cloth or a lot of other junk under the sheet and then some little stuff on top of it. It seems strange to me that the idea never seems to have entered their heads that it is just as easy to keep the sheet clean as it is to keep the bed clean, as the sheet can afford very little protection to the bed. With everything on top of the sheet, some washing is saved, besides it is so much easier for the doctor and the patient not to change everything down to the bed.

Here is the way I would have it, if I can have time and articles needed. On top of the sheet put half a dozen or more thicknesses of newspaper, stitched to gether if convenient, and so arranged that they will allow plenty of room on either side and extend from well up under her shoulders down to her feet, and over this an old clean quilt, or an old sheet of sufficient thickness to absorb practically all of the liquor amnii and blood which may escape, and then have the gown well up under her shoulders, in order to keep it clean if possible. My reasons for specifying old things is that they are better absorbants than new things. I carry an obstetrical pad and use it occasionally when I don't find the things mentioned that I like better. When I use it I always cover it with something old and soft to keep it from contact with the patient and to absorb the fluids to keep them from running over on the bed. I don't like it because it puts extra work on me to wash and keep it

clean and it does not cover enough space to allow for the moving around that a restless patient will need.

Now for the examination. I wash my hands thoroughly and use lubraseptic or carbolyzed vaseline put up in collapsible tubes, to lubricate my fingers and usually introduce two fingers into the vagina to determine the presentation and the position. I don't use gloves—possibly it would be safer for me and my patient if I did. If I find an abnormal presentation I proceed to correct it as soon as possible.

Just here I would say that I have never had much luck in seeing cases that the bimanual method was of any service to me in correcting malpositions without the introduction of the hand into the vagina. As soon as the os is sufficiently dilated to allow the hand to be introduced and after getting the patient in proper position and giving her sufficient chloroform that she will not resist my efforts I introduce my right hand, (always my right) with my left upon the fundus of the uterus and supporting it, gradually working my way up into the uterine cavity and if it be a shoulder or arm presenting I push it up as much as possible and then do what I can with the left hand to assist the right hand in correcting the position. I then search for a foot and make little choice which it is and gradually make traction. I don't care for both feet, but, with the pains make traction on the one I have, feeling sure the other will follow. When the breech comes through the cervix all traction should cease in order that the chin may be flexed and not extended. The left hand should be kept on the uterus and follow it down and assist the patient in her efforts at a speedy expulsion of the after-coming head because here lies the great danger to the life of the child in breech presentations. Face presentations will generally take care of themselves, but in all cases we should do what we can to have the chin rotate forward. In vertex presentations that were r. o. p. or l. o. p. I have never felt that my efforts to secure a forward rotation amounted to very much, and have had quite a number where the occiput rotated into the hollow of the sacrum, some of which were delivered spontaneously, but most of which I have delivered with instruments, sometimes bad lacerations and sometimes without any laceration to amount to anything. Whenever the os is fully dilated, and the head is well down, and the pains are good and coming from 2 to 5 minutes apart and have been doing so for two hours or over, in my opinion, it is time to use instruments, whether rotation has taken place or not. If used skilfully instead of being a danger to the woman, they

prevent many dangers and often save the life of the child that would otherwise have been sacrificed. Not all babies that are born dead should be attributed to the use of instruments. Of course the woman and the husband should always have the matter properly put before them and their consent secured before resorting to their use, and it would always be a wise precaution if it were convenient to have an anesthetist, or a consultant to assist in these cases. But so far as my practice has been concerned I have very rarely enjoyed this luxury. In my cases some sensible woman who will follow instructions is intrusted with the chloroform after some instructions as to how to give it and then, with the woman across the bed with her hips well up to the edge and with a sheet that has been twisted into a rope from corners at opposite ends and sides, and passed over one shoulder and under the other and the ends tied around the legs just above her ankles to support her feet, either on the edge of the bed, or on chairs set alongside of same. This method is a great help in controlling the legs in nervous patients and is of considerable help to the assistants. In my cases forceps are always applied with the woman in the dorsal position and the blades are applied, if I can do it, to the side of the head and in other cases to what ever part they can be most readily applied to. I suppose I have used them in about one case out of ten, in a practice that has had from 50 to 75 labors per annum for the last 20 years, and some less than that for seven years before. I have never had a death where I had used instruments and had only two lacerations into the rectum. In looking back over my experience with the use of instruments in this number of cases, all of which I have done unassisted by skilled assistants excepting a very few in which I have been called in to assist some other doctor, I have nothing to say except to congratulate the profession that we have such aids in our work, and to express my most profound sympathy for those who practiced the profession before their day. I have seen many cases where I believe the woman could have been saved some time and considerable pain at no greater risk if they had been used instead of leaving it to nature to effect delivery.

There has been in use by the profession in the last year or so a new method for producing a *vis a tergo* that in many cases will probably render the use of forceps unnecessary, that is pituitrin, or extract of the pituitary body. That there is a field for this substance in the practice I am sure, and I am equally sure that like a great many new things that have been introduced to the profession it will be greatly over-worked. In my hands it has

always been disappointing in premature labors, especially in one where there was a terrific bleeding. This was a case in which it was to my mind clearly indicated and one in which I was very much disappointed, getting very little if any effect from two c.c. given at two doses. Many times when labor is slow and the pains seem not to take hold just right, there is some cause for it rather than in the pains themselves. Sometimes it is a failure in the process of rotation, again it is a rotation of the vertex into the hollow of the sacrum and occasionally it is a disproportion in the head and the pelvic passage. Did you ever notice that when two men, two dogs or two of anything were about to fight, how much more aggressive one was if the other began to give way a little? It is often thus with the pains—they seem to hesitate to go up against that which is not inclined to give way, but immediately to assert themselves when progress is being made.

In full term cases where the os is fully dilated and the head has descended to the floor of the pelvis and where we sometimes seem to have reached that period of "watchful waiting" that only needs a little more force from behind, if one c.c. is given you can count on it acting promptly and energetically within a period of less than ten minutes. Whatever it does is usually completed within a period of not over forty-five minutes, hence if the parts are not already dilated or dilatable you are going to have a laceration. When it acts it is powerful to do good, or harm, and if you use it without wisely selecting your cases, your conscience is liable to lash you, but in properly selected cases, guarded, if necessary, with chloroform it is a great addition to our armamentarium. Its indiscriminate use in all cases of slow labor is not to be commended.

Another remedy which has been much condemned and much commended, depending on whether it was spoken of by its enemies (mostly those who have not used it much), or its friends (who have tried it and learned when to use it and when not to use it), is heroin and hyoscine, or, Abbott's H. M. C., I use 1-12 gr. heroin hyd., and 1-2000 gr. hyoscine hyd., and in properly selected cases it always has a very salutatory effect. In nervous patients where the os dilates slowly and the pains are attended with a great deal of suffering causing the woman to writhe and cry out, it is a very useful measure and saves much unnecessary suffering, putting the patient in a semi-conscious condition while the pains are on and allowing her to sleep much of the time between them, thus securing rest for the patient and the attendants without any harmful effects whatever. In these cases if it becomes necessary to give chloroform during the

expulsive stage the patient can take it with much less of the unpleasant effect and it really takes much less of the latter to secure the desired results. It should not be used in every painful labor nor to mitigate the pains during expulsion, nor in cases that are likely to terminate within less than four or five hours after giving it. It is better adapted to the pains of the first stage and chloroform to those of the second stage. In the first stage we use it because it endures for some hours, and in the second often we want something which passes away quickly. Used in the very beginning of labor it passes away by the time of its completion either partially or wholly and in this way any effect it might have on the baby is not observed.

Another remedy which we all use more or less, is chloroform. Given to the obstetric degree it is, in properly selected cases, practically free from danger, is a great boon to the patients who need it and can take it without too much unpleasantness. Not all cases need it and even in some where it is indicated, often when the time comes that it seems indicated the pains come with such terrific force that delivery is completed before the patient can get enough to amount to anything, and then again it is so unpleasant for some people to breathe—causing a sensation of suffocation or strangling—that they had rather endure the pains than the unpleasant effects, and again some people have such a fear of it that they would rather bear the pain than take it. In all of these cases it should properly be left off.

In *veratrum viride* and venesection we have two remedies, where eclampsia is threatening, or has actually begun, that are about as near specific as anything could be not to be. Of course other remedies can and will be used by us when face to face with this terrible condition, but these are the ones on which to rely. I have never seen a case of convulsions which continued very long after using both of these life-saving measures. After the convulsions have begun give Norwood's tincture hypodermically in 15-drop doses every half hour till the pulse comes down to 60 or even lower and if the convulsions are not controlled bleed a healthy woman who weighs 150 lbs. a full quart and you will have the satisfaction of standing by and watching the salvation of the Lord.

Now we will suppose that labor has been completed and the placenta has been removed what are we to do next. Remember, that in the country we have no trained nurse to turn the patient over to, to clean her up. Here is the course I pursue. I usually, after the placenta together with clots and water has been removed from the bed, turn up one or two

thicknesses of the pad from the lower end and slip them under the woman and let her straighten out her legs and rest for awhile, and for a few minutes (10 or 15) keep my left hand over the uterus to see that it stays contracted well, thus securing safety as to hemorrhage taking place. About 45 minutes after the child has been delivered I turn the woman over on her left side (always on her left side, because I always have her right side next to the side of the bed that I am on) this gives me my right hand to use and after wiping off the worst part of the blood, etc., I wash her off thoroughly with hot water and a clean cloth. (something like a flour sack). Now is the time to make the inspection for tears, and this should always be done that you may be positive they are not there, or that you may find them and repair them if they are there. After bathing her off if there is no laceration a sterile piece of gauze should be placed between her limbs to catch the discharge and then the soiled pad should be removed and a clean one put in its place and the woman turned on her back and if the pad has been properly placed all that will be necessary will be to straighten out the pad. I do not always use a bandage, because in slim women they will slip up and give more worry than benefit. I never use a douche, nor have one used after labor, unless there should be something out of the ordinary about it, nor do I leave any carbolic acid or other antiseptic for them to dabble with but always insist on the use of clean hands, cloths and boiled water. Now after giving instructions as to changing napkins, bathing and looking after kidneys and bowels, caring for the nipple if it be the first baby, danger signals, and as to the necessary time for confinement, etc., etc., I take my leave not expecting to see the patient again, unless she lives in town.

Gastroduodenal Tube.—Reh fuss points out that with his modified gastroduodenal tube it is possible, following the technic described, not only to ascertain the whole cycle of gastric digestion, but to locate the presence of liquid rests, hypersecretion, stasis, by a method of insufflation and auscultation described above. It is possible to determine the end point in gastric digestion, by failure to aspirate material when the patient is placed in different positions; by the character of the samples obtained; by the character of the sound produced by insufflation and heard by auscultation; by lavage. A method of outlining the stomach on the principle of the stomach whistles, is possible.

THE ECBOLOC ACTION OF PITUITRIN.*

By J. L. ATKINSON, Campbellsville.

While the title of this paper would confine its scope to the ecboletic action of the extract from the pituitary body or gland, I think it will not be entirely foreign to the subject to give something of a condensed resume of the present day knowledge of the organ, and the physiologic action of the extract when administered to the human subject.

Sajous' conclusions are that the pituitary body is not a secreting gland, but a "composite nerve center." He says that pituitary organotherapy "does not mean the scientific use of a substance which carries on well-defined functions of the body," as ovarian and thyroid extract, "but rather the use of a tissue rich mainly in chromaffin substance and nucleins, or at least in substances capable of producing jointly the effects of adrenal preparations, modified and improved through the combination with other components of the pituitary body."

It has been shown by several authorities that the posterior lobe is the only one that is therapeutically active. The removal of this lobe will not cause death, but the removal of the anterior lobe which is therapeutically inactive, will cause the death of an animal. The pituitary body is called the "sensorium commune" because it seems to be the center of sensory impressions, and it may be likened to a transformer, in electrical parlance, since sympathetic currents from other centers of the brain are modified by their passage through the pons.

"The phenomena awakened by pituitary are strikingly those of adrenal." It raises the blood pressure and also contains a depressor substance. Pituitary extract actively produces arteriosclerosis, and it is also known to produce glycosuria.

The advantage of pituitary over adrenal preparations is that they sustain the rise of blood pressure much longer. They also seem to sustain the temperature and muscular tone, cardiac, vascular, intestinal, and uterine much longer than adrenal. This is probably due to the fact that it contains other components of the organ. This feature makes it more useful and reliable in shock and other emergency cases. Another advantage over adrenal is that it can be administered by the mouth without compromising its effects, but of course it is more prompt and certain when administered hypodermically or intravenously.

The action of pituitary extract in causing contraction of involuntary muscular fibre led to its being used to check postpartum hemor-

rhage, and other uterine hemorrhages. Further experimentation showed that it caused contraction of the pregnant uterus in the rabbit, which paved the way for its use in the human subject to augment the contraction of the uterus in labor. I might digress further to say it has been used with success in cases of intestinal paresis after operation, and has also been successful in relieving menorrhagia. In the above conditions, viz, shock, post partum hemorrhage, and for its ecboletic effect it should be given hypodermically or intramuscularly. Aarons found pituitrin superior to ergot in labor cases. Sajous advises that it be not used till after the completion of the third stage of labor.

The present day prominence assumed by organotherapy, as well as vaccine and serum treatment excites our interest in any new agent of that class brought to our attention. Much of the interest in this class of remedial agents and the advancement along this line is due to the exploitation by commercial interests. While it is true that in some instances the manufacturers of pharmaceuticals have made claims for their biological products that cannot be supported by the findings of scientific investigation, and clinical experimentation, yet we may give them credit for much work, and the expenditure of much money in scientific investigation that has been of great value to physicians, and the people whom they serve. We cannot always take the statements of the detail men, and the literature sent out by the manufacturers at their face value, but we should be pleased to accord them a place as educating agencies to the busy practitioner. Much of the information at our hand as to the value of pituitrin as an ecboletic agent comes from the sources alluded to above. The literature of the manufacturers make claims that it is an agent of most wonderful power and value but until it has been fully tried we should exercise a good deal of caution in its use. My own limited experience with the agent leads me to believe it has much value, and a most welcome addition to our means of assisting the parturient woman, when used in selected cases. In the few cases I have used it strong and effective pains have followed promptly in most every instance. My own opinion is that it may be used to great advantage in cases of uterine inertia, and when the pains are lacking in expulsive force, provided there are not anatomical obstacles, and it is not given till the cervix is well dilated. It does not set with the same force in every case but such contractions of the uterus as it usually produces might do serious damage to the cervix that is not well dilated, and is tense. It may be said, however, that less damage may result to the

*Read before the Muldraugh Hill Medical Society.

cervix by the strong expulsive force of the contractions caused by pituitrin than by rapid dilatation with instruments. I am led to believe that it is a much safer ecbolic than quinine because quinine tends to increase the danger of post partum hemorrhage, and pituitrin tends to diminish such danger; besides its action is much more prompt.

It cannot be claimed for pituitrin that it will speedily terminate every case of labor, but when used with caution in suitable cases I believe it will frequently obviate the use of forceps, and save the woman much suffering—while it will incidentally save some time for the doctor.

Instead of detailed reports of individual cases I will state that I have confined the use of pituitrin, in obstetrical practice, to cases of uterine inertia, in the second stage in which no anatomical obstruction was present. One exception to this was that I used it with one woman in second confinement, who had a narrow pelvis. In all these cases the response was prompt, the child being born in ten to thirty minutes, without any mishap; except in the case with contracted pelvis alluded to above. In that case strong contractions of the uterus began promptly but finally had to deliver with forceps. One other case may be worth noting. I attended a young woman in second confinement which the attending physician could attribute to nothing but lack of contractile power in the uterus. This second confinement was normal in every respect, but the uterus remained relaxed, and free hemorrhage began. Having the history of her former hemorrhage before me I had prepared a syringe with one c.c. pituitrin which I gave at once and uterine contractions began promptly. What promised to be a severe post-partum hemorrhage was seemingly averted. One other case I may mention. An abortion at end of third month. Some hemorrhage had continued for one week when it became quite severe and the woman fainted. When I arrived I found the fetus had been expelled, but placenta was retained. The hemorrhage was continuous, pulse 68 and weak. Sweeping out the clots in the vagina made the woman feel quite faint. I administered hypodermically one c.c. pituitrin and 1-100 gr. atropin sulphate. Her pulse dropped to 54 but she felt somewhat stronger, and I rapidly emptied the uterus with a spiral curette. The hemorrhage was controlled within a few minutes after the hypodermic of pituitrin. The patient was quite weak after I had emptied the uterus so I gave 1-30 gr. strychnin nitrate hypodermically, and she rallied in a reasonable length of time, making a rapid recovery, being able to get out of bed in one week. This case presents nothing unusual in

abortions, but I think the woman was saved further loss of blood by the administration of pituitrin.

REPORT OF A CASE OF GUNSHOT WOUND OF THE BLADDER.*

By T. F. MILLER, Cave City.

E. F., white, age 19. A stout, rustic youth of the hills, was shot March 10, 1910, at 3 p. m., with a breech-loading shotgun, No. 12 bore, loaded with No. 4 shot, at a distance of perhaps ten feet, the entire loading, including both the paper and felt wadding, entered the center of the outer aspect of the left thigh about one or two inches below the trochanter, the entire load entered as practically one ball, only two shot making separate openings, the load struck the thigh at about right angles to the outer surface, directed slightly backward and inward; the external opening was about one and a half to two inches in diameter.

I saw the boy about 4 p. m., he was lying on a pile of straw about one mile from his humble home; he had bled quite profusely, and was still bleeding, though he was able to move the limb. The wound was packed with gauze to prevent further bleeding, a cot was secured and the boy carried by friends to his home.

Here consultation was called for, and further examination revealed that the shot had passed practically through the thigh, grooving the anterior surface of the femur, passing beneath the great vessels of the leg.

On the inner aspect of the thigh was found a mass which we took to be the load lodged beneath the adductor longus muscle.

Tearing a door from its hinges to make an operating table, the patient was anaesthetized, and an incision made over the point just mentioned; we found a considerable hematoma, a felt wadding, one or two pieces of shirting, a piece of over-all and perhaps a dozen shot; further examination found that the shot had struck the ischium, and been deflected upward through the obturator foramen into the pelvis.

The patient was catheterized, and no blood found in the urine. Under the circumstances, which were of the worst, further exploration was not considered advisable; gauze drainage was carried through our incision and into the pelvis through the foramen; gauze drainage was also inserted in the wound of entrance.

The following day the patient was feeling fine, temperature and pulse were only accelerated, bowels and kidneys were moving normally; on the third day the patient failed to void; a catheter introduced became plugged, and upon removal was found to be stopped

*Read before the Muldraugh Hill Medical Society

with a piece of shirting, about one half inch in diameter; after removal of the catheter patient voided a quart of urine without pain, at no time was there any blood in the urine.

On the eighth day the patient had some pain on urination; the urination also became frequent, and a slight amount of pus appeared at the meatus; bladder irrigations with boric acid solution was employed, and two or three pieces of over-all, shirting, and pocketing were removed from the bladder; the patient was catheterized only the times mentioned, until the morning of the twelfth day, when I was told that he had not voided for twelve hours, although suffering no pain; the wound of entrance as well as of exploratory incision had done nicely, with only slight infection and drainage; on the morning of the twelfth day, however, the dressings were saturated with drainage, which had the urinous odor; a catheter introduced into the bladder failed to secure any urine, (possibly an ounce or two); believing the increased drainage was urine, and to further settle the fact, the patient was given methylene blue, which in a few hours told that the bladder had sprung a leak; the patient being in destitute circumstances, enough money was donated to take him to the University Hospital, at Louisville, where on the morning of the thirteenth day, Dr Dugan opened the bladder through perineal route, and removed from the interior of the bladder thirty No. 4 shot, a portion of a felt wadding, and two or three pieces of clothing; the shot were lying on the floor of the bladder, some cystitis as well as urethritis had developed; the temperature and pulse had also risen, and the patient showed the general symptoms of a mild infection, however, the patient did nicely, temperature and pulse returned to practically normal, the wounds were all granulating and the wound of entrance and first incision had practically healed. On April 6th the patient began to show evidence of a severe general infection, with pain and tenderness in the iliac region and hip.

On the ninth the patient was again anaesthetized, an examination revealed an osteomyelitis in the upper portion of the shaft and head of the femur, which were resected.

The patient had a very stormy time for the following two or three days; on the thirteenth or fourteenth Dr. Farbach took a culture with the view of making an autogenous vaccine; on the fifteenth the patient's mother and brother visited him, being very ignorant and not favorably impressed with hospital life, they, without the knowledge or consent of any of the doctors, removed him to a cabin home eighty-eight miles from the city, covering eight miles of the distance in a road

wagon: the limb having no dressing to render it stationary; the patient remained at home until the evening of April 21st, when he sank to a peaceful end from general sepsis.

SEVERE CAUSE OF PURPURA HEMORRHAGICA TREATED WITH SUBCUTANEOUS INJECTIONS OF PURE BLOOD.*

By C. C. HOWARD, Glasgow.

The patient was a young man twenty years old. His family history was negative as to bleeders; his personal history was good. He had always been healthy and was a clerk in the basement of a store.

On March 17th his nose began bleeding from anterior and posterior nare. At first the amount was small but this gradually increased. Spraying with adrenalin chloride was tried with no improvement. The third day from date of first hemorrhaging posterior and anterior plugging was done and the patient was put to bed with his head in an elevated position. At this time there was some oozing from the posterior wall of the pharynx. The hemorrhaging then ceased a great deal and the posterior plug became loose and the patient removed it. The hemorrhaging, which had not entirely ceased, was greatly improved and the patient was not confined entirely to his room.

On March 28th the hemorrhage increased greatly from the nose, the posterior wall of the pharynx, and the gums. A few purpuric spots appeared on the arms and in a short time partial left-sided hemiplegia appeared with motion of right eye. There was no change in the fundus of the eye, temperature had remained normal up to this time, with pulse at eighty to ninety. Coagulose was given a full dose, with slight improvement. The next day this was repeated, but the bleeding continued. Horse serum was tried next with no improvement, 10 c.c. were given. In all forty c.c. of horse serum were given but yet the bleeding continued. The patient's mentality was now much impaired; his pulse was 108 with a temperature of 100.5 F. Coagulose was again given but with no results.

The patient had been bleeding slowly now for three weeks. Transfusion was next considered, but knowing the danger of it and thinking it quite likely to be necessary to repeat the operation, we immediately began trying to think out some other line of procedure. The idea of subcutaneous injections of pure blood from healthy persons was our next suggestion to the patient. We explained to him

*Read before the Muldraugh Hill Medical Society.

fully that we were only trying this procedure without any knowledge of its ever having been tried before. He gladly agreed to try this line of treatment. A healthy young man was selected whose arm veins were very prominent, twenty-eight c.c. of blood were drawn from the vein and immediately injected into the subcutaneous tissue of the hip (used two 10 c.c. Luer syringes). Neither the patient nor the donor experienced but slight pain. The hemorrhage had almost ceased within twenty-four hours. On the second day 55 c.c. were injected, taking the blood from two young men. Within twenty-four more hours the hemorrhage had entirely ceased. The fourth days 80 c.c. were injected, again using two donors. The sixth day 90 c.c. were injected, using two donors. The patient was markedly improved by this time. His pulse was 80 with temperature normal. Hemorrhage would now occasionally stain septum. Small doses of iodides were given at this time to aid absorption.

It has now been three months since this treatment was instituted. The patient has improved to the degree that he is now able to be out most of his time. He has gained thirty pounds in weight, but has not yet resumed his regular duties.

CONCLUSION.

1. Horse serum gives excellent results in hemophilia, but failed in this case; therefore, we believe that one should use the whole blood (fresh) to obtain all elements that are lacking.

2. It is a simple procedure which can be carried out with perfect safety in the remotest districts. All you need is a 10 c.c. syringe and a strong, healthy person, then follow the laws of surgical technique.

3. In our one case it has given excellent results. We believe it to be of value in all bleeding where the coagulating elements of the blood are at fault.

Tuberculosis of the Clavicle.—Martin states that he knows of no instance of a tuberculous process in the clavicle of a child. The majority of those affected are comparatively young and have a history of tuberculous glandular processes or otorrhea. In one case the process occurred in the clavicle in a young man with inherited syphilis. None of the patients had certain pulmonary tuberculosis but some were regarded as "suspects." Four cases are illustrated, showing that either end of the shaft may be involved. If the latter, the findings are similar to those of *spina ventosa* in other bones.

EYE STRAIN.*

By J. H. THORPE, Owensboro.

I want to say in way of explanation that I do not claim anything in this paper original, but it is a gleaning of some of the fact and beliefs of other men as given by Dr. Geo. M. Gouldin his six volumes entitled *Biographic Clinics*. He takes up the life histories of such people as DeQuincey, Carlyle, Darwin, Huxley, Browning, Eliot, Lewis, Wagner, Parkman, Spencer, Whittier, Jane W. Carlyle, Margaret Fuller Ossoli and others. From their own words of ill health and intense suffering without relief from any source gave a typical picture of eye-strain which was not understood in their time. From his many case reports in defense of his belief, he has driven home great truths. Whether we can go as far as he has gone in the establishing of the cause of so many conditions due, directly or indirectly to eye-strain, is for the man who has had as much experience or even more, to speak authoritatively, or pass judgment.

In selecting what I have to present to you, I have endeavored to get the salient points that would be of the most interest and benefit to the general practitioner possible, in such a short space. Gould is preeminently the greatest man to-day in research along this line. The leaders of the profession gave him silent contempt when he first began to publish his ideas, only a few Journals would accept his articles for publication. Very few authors would give mention in their text books of this condition. But to-day all of them admit the facts that he gave to the world.

The eyes that we have to-day are the result of civilization.

Man in his primitive state did not have to earn his living by close application of his eyes, therefore he was looking at a distance, and did not have to bring into use his accommodation very often, and then only for a second at a time. He had to be on the alert for game, the wild animals, etc., and the only thing that concerned him was self preservation. As people became more numerous and civilization advanced, he was compelled to use his accommodation more and more, until now the time has come when he is compelled to use his eyes at close work from 12 to 18 hours every 24. If there should be an error of refraction and especially if he should have astigmatism, could we expect anything but some nervous reflex trouble in some other organ of the body.

Eye-strain is the unfortunate and inexpressive term that has come into use for the results that follow the use of the eyes, brain and correlated organs, to neutralize the de-

*Read before the Daviess County Medical Society.

fective function of the optically imperfect eyeballs and mechanism. The optical defect is not morbid and has no relation to morbidity. It is at best pathogenic, secondarily or indirectly, not primarily. Its secondary effect—the straining of the physiologic muscles and nerve centers—is not in itself pathologic, but illustrates, and best illustrates, the great truth which the text books, teachers and medical science itself are sadly prone to forget, that abnormal physiology is the origin of most pathology. Unnatural action and over-action start the morbid function which lands the physiologic on the postmortem table. To ignore this truth is itself pathologic pathology; to scorn it is to add unscientific sin to the symptom-complex of the scientist's disease.

It should be noted that as eyestrain is itself simply functional, not organic, so its results are at least primarily the same. Headache, the paroxysmal neurosis, many nervous and psychic disorders, epilepsy, chorea, migraine, sick-headache, gastric, digestional, and pelvic disorders, influenza, anemia, denutrition, etc. when due to eye-strain, are at first and essentially purely functional. Even those more severe diseases, which are sometimes directly and indirectly results of eye-strain, are at first characterized by a peculiar stage of functional and remediable disorder, preceding the organic inflammatory and incurable one.

Dr. C. E. Pronger says: "The most important of the nervous ailments is, probably, headache, on account of the vast numbers who suffer from it, occurring as it does at all ages from six or seven years of age sixty or more. It is very common during school life, and how much of the suffering we see in after-years might have been obviated had the real cause been detected at that period. There is no special characteristic by which eye-headache can be detected or diagnosed. They vary in intensity from the dull aching across the brows, not much more than a sense of weariness, to the intense pain in the head, often with retching and vomiting, which completely prostrates the patient, and the effects of which sometimes lasts for days. The pain may be dull aching or of sharp neuralgic character, and the situation of it is very varied. It is often in the mastoid or occipital region, or it may be either across the top of the head or the brows, or limited to one side, and I have sometimes had cases in which the pain had been between the eyes, just at the root of the nose in which glasses have given complete relief. In a large number of cases of headache there is no suspicion, either on the part of the patient or doctor, that the eyes have anything to do with it, for the reason already given, and from the fact that

nausea, retching, or vomiting is present in many cases, these are almost invariably attributed by the inexperienced to some disorder of the liver or digestive organs, forgetting that nausea and vomiting are frequently associated with nervous disturbance in eye-strain."

There are valuable lessons to be gleaned from the fact of the origin of eye-strain in optics, at once historic, physical and physiologic. There is the observation that medical science and pathology did not discover it. The science of physiologic and pathologic optics came to medicine almost entirely from without. It is the gift of the physics. Even Donders had little or no thought of the extension of the practical science made by the practical American ophthalmologist. Mitchell, not an oculist, heard the story from Thompson about the relief of headache by the use of cylinders for astigmatism, and he told the profession about a little of it.

The first word, so far as we are aware, publicly uttered, which announced that ametropia had pathologic or morbid systemic consequences was that of the dean of the American ophthalmologic profession, Dr. John Green, of St. Louis. In 1867 Dyer, of Philadelphia, had begun to prescribe astigmatic lenses, but there is nothing so far as I can learn to show that he had any belief or proof that ametropia caused ocular or systemic disease. This honor, therefore, belongs to Dr. Green, so far as the relation to the eye is concerned. To Thompson, of Philadelphia and secondarily to Norris, of Philadelphia, belongs the equal, and in its consequences, greater honor of suggesting that the evil effects of eye-strain extended also to the brain and nervous system, and thence to the functions of other systemic organs. In conscientiously and ingeniously correcting the astigmatism, etc., of his patients, Dr. Thompson found that they came back and reported relief of headache and other distressing symptoms and with the discerning eye of the true clinician he noted, retested and reproved the reports. This was just prior to 1874. Dr. Thompson spoke to Dr. Weir Mitchell, a neurologist of Philadelphia, of his findings, and Mitchell at once seconded them and published three articles concerning Dr. Thompson's cases, in which it was shown headaches, insomnia, vertigo, nausea, and failure in general health were consequences of refractive and accommodative anomalies of the eyes.

Few have most dim notion of the complexity of the organ of vision of man, or the amazing difficulties of "Biologies" in fashioning and perfecting it. Million of finger tips are bunched together in the one-inch cup of the eyeball, from whence run about 425,000 nerve

fibrils to topographic mechanism of sensation in the occipital lobe. The eye can see an object 1-100 of an inch in diameter. The cones and rods are only 1-10,000 or 1-14,000 of an inch in diameter, and a million cones at the macula occupy a space of only 1-10 of an inch square. These crowded finger tips perceive the shape of the picture and the intensities of the light stimuli of all illuminated objects of a millionth of a millionth of the kinetic energy of any physiologic force, and of so short a duration as the .00144 of a second. And out of these infinitesimal waves the sensation called light and color are created. The mechanism which creates them must be in intimate and instant connection with the centers initiating and controlling every other sensation, of every motion, of every muscle of the body. Imagine for an instant what takes place in every animal and human being every day of its existence.

Your horse avoids all stones and knows, unconsciously, every inequality of the ground before and beneath him by like mechanical unity. Watch little children in play barely missing obstacles and dangers which would mean injuries and perhaps death with swift unconsciousness.

See with unbelievable accuracy if you would succeed, is the first verse of the biologic decalog. That is the physiologic Logos which becomes the biologic flesh.

But see inaccurately and you die, is the antithesis, and the animal which failed to obey perished, inevitably and quickly. The savage did the same, your horse that stumbles is useless, your playing child that hits its legs or trips becomes, at least, a very different child, and a very different man or woman from the others who do not make these visual and coordinating blunders. Such are the backward scholars in school and, in large part, they are your failures in life, society's expensive degenerates, defectives and dependants. They are rapidly increasing in number with every step of civilization, because every such step means the entangling difficulty of added near vision.

Every sensation and its every correlated motion is an example of reflex action, and yet there are those who airily scoff at the very possibility of reflex neuroses, and other diseases due to reflex action.

Who has examined the refraction of the insane? What patient with extreme eyestrain or migraine has not feared insanity? The sanest man of men, Parkman, was pronounced insane, and so was Wagner and others, by great authorities, at the climax of their sufferings. Was not Nietzsche's "atypical paralysis" intimately connected with his most evident eyestrain?

A competent oculist finds the majority of the young criminals of the Elmire Reformatory afflicted with so high a degree of ametropia as to make study, reading and writing and ordinary handicrafts impossible. What else could many of the poor boys do but play truant and steal?

There is scarcely any disease which the general physician or internist is called upon to treat that may not be and that frequently is not due to or influenced by eye-strain. The commonest is designated by that silly and meaningless word, migraine. The term has little or no significance nowadays. It is, in fact, the vulgarization of a misnaming and meaningless designation of a malobserved and trivial symptom, which in the majority of cases is not present, of a widely prevalent and ingravescent disease, with indescribable symptoms, which may, in extreme cases, wreck life and morbidize the mind, the etiology and pathology of which are unknown, the location or organs affected being also unknown, and of which no treatment avails. It is made to cover the conditions indiscriminately called scotoma scintillans, headache, sick-headache, gastric and intestinal disorders, insomnia, melancholy, etc.; in a few severe cases such patients have all of the symptoms. It is almost always due to eyestrain, and, except in the rarest worn-out chronic cases, it is almost immediately curable by relieving the eyestrain. It is the commonest of all affections, the great manurer of the ground for other and terminal diseases, the supporter of quacks and patent-medicine syndicates. From 10 to 20 per cent. of all Americans suffer from it, under one alias or another, recognized or unrecognized. The larger number of these, taught by sad experience, have given up the hope of cure, and they are neighbors of the person who says migraine has no relation to eyestrain, and who does not know that thousands are now being cured by two little pieces of glass. Eyestrain effects have a peculiar tendency to periodicities and waves of better or worse. The nervous centers can endure for a time the burdens and irritations laid on them, but at last give way. This is so of mental states and diseases and the eye as psychologists know, is the chief creator of intellect, hence those diseases or symptoms when not dependent on organic disease, like headache, sick-headache, fickle appetite, the paroxysmal neuroses, cardiac palpitation or irregularity chorea, epilepsy, neuralgia, insomnia and colds, which exhibit such waves of exacerbations and depression, may be due to ocular irritation.

One of the more subtle but still easily recognizable methods in which eyestrain works perniciously is by a slow and general denutrition and reduction of mental and physical

vitality whereby the resisting powers of the system are reduced to such a degree that it becomes the easy prey of infections, and of general and terminal diseases.

The age-long superstition whereby almost all the diseases of women were traced to the sexual organs and functions, is fast giving away to a new view more in correspondence with facts. That puberty and menstruation should inaugurate a host of terrible evils, and the menopause another legion, is at the least contradictory. The proper name for the cause of many supposed disorders of menophania and puberty is study with astigmatic eyes; that for supposed menopausal woes is presbyopia.

The connection between the eye and sexualism is known of old, and is a deep and profound one. Love of any and all kinds dilates the pupils, the designation of the grand sympathetic system itself arising from the fact. A certain profound relation of vision and sexualism will sometimes be established which as yet is unsuspected.

Is it not a pathetic source of social misery that 10 or 20 per cent. of eyes are incapable of sewing, typewriting, book-keeping, lathe-work, studying, draughting, and a still sadder that their owners have no knowledge of the fact, and that they should suffer until "break down" comes? Is it not an awful thing that from 40 to 60 per cent. of all school children are sickly? That suicide is increasing, insanity and epilepsy incurable, hospitals multiplying—and taxes, and prisons, and war, and want? A certain, perhaps a large, per cent of all these backward school children, epileptics, prisoners, insane, hysterics, neurasthenics, dyspeptics, have such eyes that glasses correcting their optical defects would bring them much relief, would have often have prevented much or all of their tragedy. And the proof of this: Put any pair of such spectacles on any one of us, and within an hour there would be headache, giddiness, vomiting or intense suffering. The cynics and skeptics of "eyestrain exaggeration" can be speedily converted whenever they are earnest enough to try a simple experiment on themselves.

It is a truth awful in its significance that in civilized countries there are millions of people who are good products of the evolutionary mill, but have sound minds and good bodies, but who are partial or complete failures, always with intense personal suffering, simply because of an infinitesimal malcurvature of the cornea, a too long, or a too short eye ball, no greater than the thickness of a sheet of thin paper.

It is the little thing that, overlooked by others, makes or mars all undertakings, all

science, and all cosmic proceedings. The compass guides the ship, and without it there would be no civilization as we see it.

Without vaccine virus there would be a different world, there could hardly be civilization. The history of the discovery, the reception and the rejection of vaccination is a perennial illustration. Inoculation of cowpox as a protection against smallpox was known by many nations in the past ages. Humboldt says it was understood and practiced by the Mexican shepherds. The dairy folk of Europe knew of it, and especially those of England, long before the brave Dorsetshire farmer, Benjamin Jesty, inoculated his wife and two children from the teats of the cow. The experiment was successful, but not even Jenner dared to repeat it on the Phipps boy until twenty-two years had passed. It was still a long time before the profession and the world accepted the measure, and the opposition was so great that it was passed down to the ignorant of our own time. Only Germany and Japan have become civilized enough to accept it fully, and they have no smallpox. The rest of the world is still paying the penalty for its sad disbelief. And there are to-day, perhaps, a million antivaccinationists in America.

When Pasteur had demonstrated what Villemin and Davaine had before said was true, the bacterial origin of some diseases, history records that "the doctors, in the great majority, were opposed to the germ theory of disease. They answered experimental proof with oratory. The less excited among them urged temporizing. The surgeon Chassaingne warned Pasteur that laboratory results should be brought out in a circumspect, modest and reserved manner, etc."

In 1843 Dr. O. W. Holmes conclusively showed that puerperal fever was contagious. We ignored the fact. In 1846 Semmelweiss of Vienna, independently proclaimed that puerperal fever was due to inoculation by nurse, midwife or doctor, and that this contagion could be prevented. For this bravery and clinical acumen Semmelweiss was persecuted by his medical brethren, turned out of his professorship and ruined.

The opposition DaGuerre had in discovering photography is well known. He was put in an asylum because he said that he could transfer his likeness to a tin plate.

In medicine it is particularly unfortunate to reject offered truth and discovery, because medicine is at heart both a science and philanthropy, and the non-acceptance means at once lack of knowledge, and the no-relief of patients at the instant under the care of the skeptic. Rejection of a medical truth becomes immediately condemnation of the patients to death or to a continuance of their

suffering. There are some cases of eyestrain that are incurable and Gould gives the following list:

1. Congenital anomalies.
2. High degree of ametropia.
3. The sequels of inflammatory diseases, traumatism, etc.
4. Amblyopia, or other injury of ametropia.
5. Chronic heterophoria or heterotropia.
6. Interruptions or contradictions of the normal coordinations of dextrocularity and dextromanuality.
7. Cerebral or normal disease.
8. Systemic disease, or disease of the inter-related special organs.
9. Injurious occupations, unhygienic use of the eyes, etc.

Space will not permit me to go into detail about the incurable cases of eyestrain just mentioned.

THE SURGICAL TREATMENT OF DISEASES OF THE THYROID GLAND.*

By JNO. R. WATHEN, Louisville.

In discussing the surgical treatment of diseases of the thyroid gland, we will not burden you with a review of the writings of others upon this much discussed subject, but we will confine our remarks to the writer's own experience, now including several hundred cases of goiter which have been treated surgically, covering a period of the last ten years, furnishing the data which we shall summarize and from which we shall draw conclusions for this paper.

Exophthalmic goiter is a condition now recognized as a result of hyperthyroidism, i.e. increased pathological activity of the thyroid gland.

As to the real cause of Graves' disease there is still some diversity of opinion, but the writer believes the primary trouble begins in the thyroid gland and the other organs, later effected, are secondary. This view is the one at present held by Koehler, Mayo, Wilson and others.

On the other hand Crile does not accept this hypothesis, and advances his Kinetie theory, which closely connects the nervous system with its production. Plummer has well said that: "The clinical picture early in the history of Graves' disease is that of a toxin acting directly on the more vital organs, most notably the central-nervous and vascular systems."

Although the etiology and pathology are still mooted questions, we are indeed fortun-

ate that the diagnosis is comparatively easy, and the results of treatment by operation in well selected cases, in the hands of men of experience, are the most brilliant and gratifying of any surgical procedures. Any enlargement of the thyroid gland usually produces an accelerated pulse rate, some nervous symptoms, and the neck fullness causes a sensation of choking or something. It is especially in the exophthalmic type of goiter that the pulse remains greatly accelerated, and the other symptoms are most prominent.

The varied enlargements of the thyroid gland, which we have called goiters, have been classified by the different authorities in many ways, due largely to our comparative ignorance of the exact physiology and pathology of this gland.

The diagnosis of the cystic types is comparatively easy, as they are usually round, protruding and generally freely movable. They somewhat resemble ovarian cysts in their appearance. Some attain a very large size. Of course exophthalmic symptoms are very liable to occur in these, and their early removal should be insisted upon as the results of operation are good.

The large adenomatous goiters, so often seen in Europe, are not of frequent occurrence in this country, as are also the fibrous and calcareous varieties. Cancerous goiters are seldom met with and can usually be diagnosed if far advanced, by their fixation to the surrounding structures and their stony hardness, cachexia, etc.

The most dangerous type of goiter and the kind most often found in this country, is the thyro-toxic variety. These are easy to diagnose in the late stages after all the typical symptoms have developed, and much irreparable damage has been done, but to make an early diagnosis is sometimes extremely difficult.

The earliest symptoms which would lead us to a diagnosis are mental irritability, tachycardia, vasomotor disturbances of the skin, tremor, muscular weakness, loss of weight and exophthalmus. Often the thyroid gland is so slightly enlarged that it has been overlooked by the physician treating the case, and the patient has been treated for almost every other disease except the real trouble.

What are the indications for treatment after our diagnosis has been made? They should all be given first, rest, and by that is to be understood a real rest in the fullest sense of the term, i.e. avoidance of all excessive exercise, or excitement and a life of quiet and ease.

It has been clearly demonstrated by the Koehlers that iodine not only does no good,

*Read before the Eagle Valley Medical Society.

but may be very harmful in that it may stimulate an adenomatous or cystic goiter to become the exophthalmic type. Likewise all preparations of thyroid are contraindicated. Electricity is of no value and tends to excite an already overnervous patient.

I formerly believed that a larger percentage of these cases were cured by this treatment, but as my experience has ripened and I have had better opportunities for studying Graves' disease, I am now firmly convinced that what has occurred under non-surgical treatment has been that the acute symptoms have subsided and we have a temporary stage of quiescence.

True the size of the tumor has apparently disappeared, but upon operation later, we are surprised that even this is not true, as what really has occurred is that the long continued pressure has absorbed the fat layers of the neck, caused an atrophy of the muscles, etc., and the tumor has sunken deeper into the folds of the neck.

This is an apparent reduction in the size the fallacy of which I have time and time again demonstrated at the operating table, and in this connection let me say to those surgeons undertaking the operation, that these are the most difficult of all goiters to remove and the most liable to cause the recurrent laryngeal nerve to be injured, with resultant voice paralysis. True that some cases have shown signs of improvement under medical treatment, but this has been proven to occur independent of any treatment whatsoever; in fact, they often do best if kept quiet and given no medicine at all.

Based upon a comparatively large experience, I should say that if we delay operation for several years, administering iodine and electricity until the heart muscle has undergone degeneration, albumen in the urine, enlargement and fatty degeneration of the liver, lowered blood pressure, etc., we have waited too long to attempt any radical operative measures and these patients will generally die.

The proper time to advise operation with the expectation of a low mortality and good results, is after this thyroid enlargement has begun to manifest the early symptoms of thyro-toxic goiter, and has existed for several months with little or no signs of improvement.

In young girls about puberty, who are developing enlarged thyroids, I am now advising an early pole ligation under local anesthesia, as this is sufficient to check the enlargement and cause the other symptoms to rapidly disappear in about 90 per cent. of the cases.

In the selection of our patients for operation, we should realize that early operation, before complications have arisen, as in appendicitis, gallstones, etc., offers the best results. Those cases whose pulse is not over 120 to 130, and which under careful preparatory treatment, can be reduced to 100 or below, and whose arterial tension is not far below normal, will usually give good results. It is that class of cases where no preliminary treatment seems to be able to make such temporary reduction which seems to be specially dangerous. I have carefully studied my operated cases, and I have noted that all patients in whom I was not able to reduce the pulse in preparatory treatment to below 100 had died, and I lost no patient in whom we were able to reduce the pulse to below this figure—this observation, irrespective of the original condition of the pulse when the patient entered the hospital. In other words, a patient entering the hospital with a pulse of 180, and reduced before operation to below 100, always recovered, and one entering the hospital with a pulse of only 120 to 130, and not reduced below 100 always died. Those with intermittent pulse are the most dangerous, irrespective of the pulse rate. Also those thyro-toxic goiters in women approaching the menopause, where the goiter has existed for some time and is now beginning to show toxic symptoms, are especially dangerous.

The removal of the thyroid gland in late cases is useless, as the real damage has been done to the other organs and it is too late to expect much repair. Likewise the supposed cures by medicine occur only after the thyroid has exhausted itself of its poison and damaged to the limit the heart, liver, etc.

It is little short of marvelous how in a few days the heart beat will drop from 140 or more to normal. Of course in cases of long standing with a badly damaged myocardium so great an improvement cannot be expected.

The exophthalmos usually shows a slower improvement, and the skin, hair and menstrual irregularities gradually change for the better. The mental or morbid psychic state is the earliest to disappear. Digestion soon improves and the muscular power returns easily. In cases of long standing these changes for the better are slower to make their appearance and in the very worst cases we should expect but little improvement as we are only dealing with the wreckage after the storm has passed over.

Compared with other surgical cases, the immediate and remote results of operation, in the hands of the experienced can offer as good or better results than many conditions like appendicitis, etc.

All the patients operated upon by me and

who left the hospital as cured, have remained as cured or greatly benefited, the latter class being, of course, the cases seen late in the progress of the disease. No ease has since died from symptoms like Graves' disease. In my earliest work, and in the work of the other few doing a large number of goiter operations, there were a few cases where, when one lobe was removed, the other subsequently enlarged and required a secondary operation.

Fortunately, I have since learned the art of preventing such an occurrence, and no ease in the last two years has returned for a secondary operation for this condition.

Furthermore, I believe we have now almost completely mastered the greatest drawbacks to goiter operations, i.e. the injury to the recurrent laryngeal nerves and the resultant paralysis of the voice, either complete or partial paralysis. Koehler attempted to overcome this by local anesthesia with over 5 per cent. of paralytes. Mayo's percentage under general anesthesia was much larger, while the writer with his original technique has had no permanent injury in several hundred cases.

We consider our patients cured if they can undergo nervous shock like grief, worry or fright, with no more excitement than a normal individual.

One prominent surgeon has well said: "I know of no class of patients who are so intensely grateful, who become such militant partisan advocates of the operative treatment of this disease as the cured cases. There may be some hesitation on the part of the general practitioners to recommend surgical treatment for Graves' disease, but the cured patients share no such doubts. They are stronger advocates of operation than the most surgical surgeon."

My own mortality has not been much over 5 per cent, and I have benefited all upon whom I have operated, apparently cured permanently about three-fourths and the remainder offered relief to some extent.

Organic Phosphoric Acid Compound of Wheat Bran.—A previously unknown organic phosphoric acid, inosite monophosphate, $C_6H_{13}O_9P$, has been isolated by Anderson in beautiful crystalline form from wheat bran. All of the salts of this acid, with the exception of the lead salt, are very soluble in cold water. The alkaline earth salts are not precipitated with ammonium hydroxid, differing in this respect from other known organic phosphoric acids as well as from ordinary phosphoric acid.

COUNTY SOCIETY REPORTS

Muldraugh Hill—Meeting called to order by President Curran Pope on August 13, 1914; Dr. J. L. Atkinson acting secretary; about thirty members present.

A. O. Pfingst presented a specimen of calculus of tonsil.

T. F. Miller, of Cave City, presented a case of "Gunshot Wound of Bladder."

Discussion—**Irvin Abell**: An interesting feature of the case was the lack of blood in the urine. Another interesting feature was the lack of bladder irritation from such an extensive wound and the presence of such a number of shot and amount of debris that were in the bladder.

John R. Wathen: I believe this to be a case in which the wound did not at first enter the bladder but reached the bladder wall and later sloughed into the viscus. The first piece of cloth was gotten from bladder on third day which indicated that bladder wall was wounded.

A. D. Willmoth discussed the case agreeing that Dr. Wathen's solution was the correct one.

H. P. Honaker discussed the case agreeing with the two preceding speakers

G. G. Thornton also spoke on this case.

Curran Pope in discussing the case said it was very unfortunate that X-ray pictures could not have been made in this case

T. F. Miller, in closing, says he doubts that shot and debris were lodged in bladder wall since the shot were found imbedded in floor of bladder.

C. C. Howard's paper on "Purpura Hemorrhagica," with a new method of treatment.

C. Z. Aud, in opening the discussion said it would be regrettable that such a paper should not be criticised. Has seen a number of cases of purpura hemorrhagica and has never seen one die. Doubts if the treatment as outlined is safe.

L. E. Comstock, of Cave City, says a description of the case as given him would justify any treatment that the attending physician might decide on.

G. G. Thornton complimented Dr. Howard in his remarks. Dr. Thornton says large doses of ergot or hydrochloride of ermutin give excellent results in epistaxis and other hemorrhages.

T. F. Miller, of Cave City, has had no experience with purpura. Reported a case of typhoid hemorrhage in which 60 c.c. was withdrawn and injected with syringe.

H. P. Honaker reported a case of purpura hemorrhagica of severe type which promptly died. He controls hemorrhage with calcium stalts.

J. L. Atkinson asked about behavior of local points of injection.

C. C. Howard says they produced some ecchymosis but blood was readily absorbed.

C. Z. Aud sounded a warning against the injection of substances of unknown effect into the

human body. Dr. Aud disclaims criticism of Dr. Haward in his individual case.

M. F. Combs was permitted to say a few words the blood of one person into another more on account of possible syphilitic infection.

A. D. Willmoth congratulated the essayist on the fact that he injected the blood into the tissue instead of intravenously but also warns against the transfer of infection. Dr. Willmoth advises great care in the infusion of blood into one person from another.

C. C. Carroll says he does not know how the blood works but it certainly worked in this case.

M. F. Combs was permitted to say a few words on transfusion advocating saline solution instead of blood to supply the loss from hemorrhage since the principal loss is in the serum.

At this point Curran Pope demonstrated a small instrument he uses for withdrawing blood from the guinea pig.

C. C. Howard, in closing, thanked the members for their criticisms and mentioned some of his experiences with purpura hemorrhagica. He says that in the case reported he used the treatment as an emergency and in such an emergency would use it again but did not recommend it as a routine treatment.

"An Unusual Case of Acute Glandular Infection."

"A Peculiar Case of Infection Resembling Typhoid Fever."

"A Case of Constant Bleeding in Pregnancy." by **S. H. Ridgway**, of Shepherdsville.

In opening the discussion **J. L. Atkinson** asked why the doctor should have interfered to produce labor in the third case reported. He also reported cases in which the amniotic fluid escaped sometime previous to normal confinement.

C. Z. Aud also discussed the paper and reported cases of delivery after the amniotic fluid escaped.

S. H. Ridgway, in closing, thanked the members for the discussion and said patient showed evidence of being in labor and as it was ten miles in the country decided best to produce labor.

"Some Unrecognized Phases of Diseases Affecting the Lower Bowels," by **Granville S. Hanes**, of Louisville.

The society gave close attention to Dr. Hanes' paper which was highly instructive.

"The Diagnosis of Surgical Lesions of the Urinary Tract," by **Irvin Abell**, of Louisville.

John J. Wathen in opening the discussion, said that he very much appreciated the paper, also that it was a very complete resume of the subject and commented on the advance in diagnostic methods that had been brought to the notice of the profession in recent years. He advocated also exploratory incision for diagnosis in certain cases.

Dr. Abell in closing stated that he advocated

a complete routine examination in these kidney cases.

"Some Thoughts in the Management of Obstetrical Cases," by **G. G. Thornton**, of Lebanon. Dr. Thornton changed the title of his paper by adding "As Seen in Country Practice."

"Eebolic Action of Pituitrin," by **J. L. Atkinson**, of Campbellsville.

The papers of Drs. Thornton and Atkinson were discussed together.

A. D. Willmoth said he thought the binder had been discovered by all obstetricians. This in reference to Dr. Thornton's paper. He thinks it unwise to use the spiral eurette as it may easily bore through the uterine wall.

G. G. Thornton in closing said he would like an expression of opinion on his methods.

Discussion was closed by **Drs. Thornton and Atkinson**.

Curran Pope gave a most interesting talk on the use of lyoseine and the twilight sleep produced by that drug. He thought it a dangerous practice.

There being no further business the Society adjourned to meet again in December.

GAYLORD C. HALL, Secretary.

Owen—The Owen County Medical Society met with Dr. J. W. Botts on September 3, 1914. Members present, A. E. Threlkeld, Wheatley; Geo. Purdy, New Liberty; J. C. B. Foster, of Ep; W. E. Foster, J. W. Botts, D. E. Lusby and J. H. Chrisman, Owenton.

We had quite an interesting meeting. No regular program rendered, but general discussion of different topics. It was considered by all present a very interesting and helpful meeting.

J. H. CHRISMAN, Secretary.

Pulmonary Tuberculosis and Sanatorium Treatment.

—Artaud compares the statistics from nine countries of Europe during the years 1906 and 1910, comparing the figures for the death-rate and the results of sanatorium treatment, especially in Germany, Switzerland and France. His conclusions are that at least 50 and probably 75 per cent. of all in the early stages of tuberculosis can be permanently cured by the system of public sanatoriums and dispensaries. The main point is to discover the tuberculosis in its incipient stages, when it is always curable. The average stay in the sanatorium should not be less than six months; it is from the sanatorium alone that we can expect actual and durable cures. The tuberculous taking fresh-air treatment at home generally get too much medicine; the family think that drugging is the chief factor in all treatment of the sick. The result in this case is that the digestion gets upset, and when the tuberculous lose appetite and cease to be properly nourished, the downward course is rapid. The family, besides, is seldom skilled enough to ward off further contagion.

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ORIGINAL ARTICLES

CONSERVATIVE SURGERY OF THE OVARY.

By CHARLES W. HIBBITT, Louisville.

Conservative surgery of the uterine appendages is rather of recent development, and as applied to the ovary refers to those methods by which ovarian structure still capable of functional activity is preserved rather than sacrificed.

Study of many cases shows that mutilating operations do not always give the desired relief, and are sometimes followed by development of new symptoms much more trying to the female than the original trouble.

It was formerly quite common to remove practically normal ovaries for various nervous disturbances which it was thought might be due to them. If you will but follow up a few cases after removal you will be convinced of the distressing effects of double oophorectomy. Giles reports cases where flushes and symptoms of artificial menopause continued for three to four years, and in some cases for ten years. Severe mental depression occurs in from 10 per cent. to 33 per cent. In 157 cases two became insane. Sex instinct was entirely abolished in 16 per cent. Giles further reviewing 1000 abdominal sections, of which 50 were unilateral salpingo-oophorectomy for pelvic inflammatory disease, concludes that the removal of one ovary causes irregularities; diminution or cessation of the menstrual flow in 16 per cent. of the cases, and in 12 per cent. the sexual desire is lessened or abolished.

Norris, in his reports of the results at the University Hospital of 133 cases in which one ovary had been removed, menstruation was diminished or irregular in 50.

While we may be working and studying in a practical way along the line of conservatism, it should not lead us to be over-enthusiastic, for we must understand that there are some pathological conditions in the ovary and structures about it which render conservatism absolutely impossible. As more of this conservative work is done and results published, we will be in better position to determine its limitations and know in what conditions it is advisable, and in what not advisable. The advantages to be gained by conservatism are:

(1) We make pregnancy possible, that is when part of ovary and normal tube are left either on same or opposite side:

(2) Menstruation is continued, if an ovary or functioning piece of ovary can be left with the uterus or part of the uterus:

This of itself has an important bearing on the mental condition of the patient, for the effect of the cessation of menstruation upon the mind of the patient, especially if she is young and anxious to bear children, may give rise to grave mental disturbances, melancholia, etc., and for this reason also it is well to maintain ovulation and menstruation even when there are no chances of future pregnancy.

(3) Where a part or the whole ovary is left, the function of the internal secretion or the trophic influence of the ovary is maintained.

This internal secretion is of great importance in the light of recent investigation, which shows that it controls the menstrual

cycle and directly influences the general metabolism.

We must not lose sight of the fact, however, that there are certain limitations and disadvantages to conservatism. The age of the patient constitutes a limit, as it is much more important to preserve the ovaries in a young woman than one in the late forties, or who has passed the menopause, for after this the internal secretions are changed or modified to a great extent; but after this time, should the uterus be removed for a benign growth and the ovaries are healthy, in most cases it is well to leave them.

We must also consider the physical condition of the patient, for a woman who has suffered a great length of time and is practically a chronic invalid, and whose first and only desire is the recovery of health, is a much poorer subject for conservatism than one who has suffered little.

Certain diseases also impose restrictions. Where malignant disease is present conservatism is absolutely contra-indicated, also in purulent or tubercular infection where the result is an interstitial inflammation of the ovary.

The surgeon should if possible know the disposition of his patient, whether bright or melancholy, before he operates. Other things being equal he would go further in conservatism on the one of a melancholy disposition than on the one with bright and sunny disposition.

While we cannot make any fixed rules as cases, we will consider some lesions which are favorable to conservatism.

Where a benign tumor is found, it is well to excise if it is small, and thus save part of the ovary. Where hematoma of the ovary is not large and has not so distended the ovary as to destroy normal tissue, it is only necessary to turn out the clot and close the cavity.

Cysts of the Graafian follicle and corpus luteum are seldom large enough, and are not so intimately connected with the ovary, as to require removal of the ovary.

An ovary which has fallen back in the cul de sac whether it is large, cirrhotic, or small, should not be sacrificed unless there is a gross lesion in it. Atrophied ovaries, or those having the appearance of premature senile change, are usually seen in a bed of adhesions. They return practically to their normal state after being peeled out of this bed of adhesions and set free.

The question of adhesions is the most perplexing and very important, for it is these cases in which conservatism is practiced that come back more frequently than any other. While the ovary may be adherent to any of the pelvic structures, a grave question al-

ways arises as to whether the patient is liable to suffer if doubtful structures are left, and whether the trouble will advance or disappear. This must be considered every time pathological or mutilated structures are returned to the pelvis. There are adhesions,—and adhesions,—and frequently the ovary is found embedded in a mass of adhesions, but is not otherwise involved. When they are mild and not extensive in character, the condition may be considered favorable; yet there are cases where the adhesions are dense and extensive, and on liberation of the ovary if it is not injured it can possibly be saved; but where the ovary is buried in dense inflammatory tissue, it is impossible in some cases to free it without tearing it, thus rendering conservation impossible.

Esch regards pus contained in ovarian abscesses as peculiarly virulent, those of puerperal origin the organisms having traveled through the broad ligament to the ovary. In many cases where Neisserian infection is the cause, the infection is due to surface contamination and is not the result of gonococci within the ovary.

We have all practiced conservatism with results both good and bad, and while in some cases we considered most favorable we have had failure, we should not let this influence us against the practice, for success comes only by studying the pathological condition when the abdomen is opened; having a thorough knowledge of the limitations for successful conservatism, and in being able to follow the future histories of the cases. If we adopt these principles we can so perfect our technique as to give to women many years of comfortable life. The principal rules which are necessary for success are:

- (1) Good surgical judgment:
- (2) Always leaving an adequate blood supply to the ovary:
- (3) Supporting the ovary in as near its normal position as possible.

In exercising surgical judgment our first concern is adhesions. Here we must dissect or peel off adhesions leaving the surface of the ovary free and as clean as possible from all inflammatory tissue; but if the ovarian tissue is torn it should either be resected or removed entirely. If any inflammatory tissue is left on the ovary it will favor adhesions again and thus defeat our good results.

Small cysts where they are few in number can be punctured and fluid allowed to escape. Resection is indicated where a single retention cyst is present; but in a cystic degeneration where the whole ovary is involved removal and not resection should be done.

In hematoma, also, resection should be adopted. In doing the resection a knife is

far more preferable than the scissors, as the latter tend to squeeze or pinch the ovary unless they are very sharp. All the diseased structure could be cut away, and with very fine catgut and small needle the raw areas should be brought together by a continuous stitch as this controls the bleeding more satisfactorily than a few interrupted sutures; for with continued oozing an hematocœle may result and infection and adhesions follow.

The suspending of the ovary or the resected one is a simple but important matter; it probably keeps it out of its old bed of adhesions; a small needle with silk or catgut is passed through the external end of the ovary, then through the posterior surface of the broad ligament near its upper part.

Maintaining a normal blood supply to the ovarian tissue left is of the utmost importance. Neglect in this respect is the cause of many failures following conservative work, and edema and cystic degeneration develop. In studying the blood supply of the ovary we can readily see it is easily interfered with unless we are very careful as to the placing of ligatures in all operations where the ovary is to be left. In salpingectomy cutting the tube from the meso-salpinx care should be used to incise the meso-salpinx through its extreme upper border. This will leave the blood supply of the ovary normal, and the meso-salpinx will be satisfactory for ovarian suspension. The utero-ovarian anastomosis is especially in danger of being ligated at the external cornua where the large vessels are situated close to the tube. Care should be taken in tying off the tube next the uterus to see that this ligature does not go deeply in the broad ligament, but only takes in the upper and inner edge of the meso-salpinx. In fact it is far better to dissect the tube out of the uterine cornua and not tie it off. Blood vessels should be tied in the upper border of the meso-salpinx as close to the cut edge as possible, and in whipping over the meso-salpinx care must be used not to draw the sutures too tightly, otherwise puckering of the tissues including the blood vessels will occur and circulation be interfered with.

All rough handling and traumatism of the ovary during the operation should be avoided, and absolute asepsis and hemostasis should be secured to make our work a success.

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DISCUSSION:

Irvin Abell: This is one of the most important papers that has ever been presented to this society. The sacrifice of ovarian tissue need hardly be mentioned except to condemn it. This is true, not only in young women, but in women who have passed the menopause. I recall a woman, 52 years of age, who was operated upon two years ago, in whom both ovaries presented the atrophied appearance usually seen long after the menopause has passed. She was operated upon for a large fibroid tumor, and both ovaries were removed. I have never seen a more stormy menopause than this woman went through. She developed marked melancholia and it was necessary to confine her to prevent her doing harm to herself. Although two years have elapsed since the operation, her condition is not yet normal. Many individuals who have had their ovaries removed come back to us years later with various neurotic disturbances. Possibly the general practitioners see these cases more frequently than we do. I wish to emphasize, therefore, Dr. Hibbitt's statement that conservation of a part of the ovary, no matter how small it may be—any part that is capable of carrying on the function of menstruation, is well worth while, irrespective of the condition for which the operation is performed. As the essayist has pointed out, surgical judgment plays a very important part in this respect, and this can only be gained from careful observation of our cases and study of their pathology, and often, unfortunately, at the expense of our patients. I am sure that each and every one of us can go back over our experiences and recall cases in which it would have been wiser to have left one or both of the ovaries than to have done a complete operation.

Jno. B. Richardson, Jr.: I wish to emphasize the point made by Dr. Abell relative to conservatism in the removal of ovaries in women who have passed the menopause. It has been my misfortune to have seen several cases similar to that described by Dr. Abell, and they certainly do pass through a most stormy menopause, if it can be called that. In two or three of these cases the use of ovarian extract has been of the utmost value. One woman, for two years after she was operated upon, was one of the most nervous individuals I have ever seen, and during this period she had been literally saturated with bromides and other like drugs, without benefit. Three months' treatment with ovarian extract almost entirely relieved her nervous symptoms and she is again normal, and has resumed the duties which she had been in the habit of doing before the operation, and for which her condition had incapacitated her for two years following the operation. Occasionally, when she feels the approach of nervous symptoms, she takes a few doses of ovarian extract and is relieved. In spite of the fact that the ovaries in women who have passed the meno-

pause usually show atrophic changes, it would appear that they must be capable of secreting some substance which is necessary to a normal condition of health. Therefore, in dealing with the ovaries, conservatism should be our aim.

B. F. Zimmerman: I believe we will all heartily agree with Dr. Hibbitt in his conclusion that we should always save as much ovarian tissue as we possibly can, and in practically every case we can save all or part of an ovary. Often, in the operating room I have seen surgeons remove the tube and ovary on one side because it was not perfectly healthy, remarking that the tube and ovary left on the other side would be sufficient. I do not believe we should do this. The more ovarian tissue we can save, the more internal secretion the patient is going to have, and the better her condition is going to be.

I wish to indorse what Dr. Richardson has said about the use of ovarian extract, provided it is begun in time. It has been my misfortune to see a great many cases in which the patients had been subjected to removal of both ovaries. I have a woman under observation at the present time, whose ovaries were removed fifteen years ago. She has been practically a nervous wreck ever since. She was twenty-five years old when the operation was done, and from that time until the present, she has never seen a well day. I have tried ovarian extract in this case, as well as in a number of other long-standing cases, and it has resulted in very little, if any, benefit. When its use is begun early, however, it acts almost like a specific. When we are compelled to remove one ovary and a part of the other one, it is a wise plan to follow the operation by the administration of ovarian extract. It must be borne in mind, however, that results will not be evident in a few days; the treatment must be continued over a period of months. Ordinarily, very little improvement will be noted during the first month. During the second month the patient will begin to feel better, and by the third month most of the nervous symptoms will have disappeared. It should be administered in 5 gr. doses, three times a day.

I recall a woman who has been under my care at intervals ever since she was operated upon six years ago, the surgeon removing both ovaries. This woman would menstruate only about every three months, and during the interval between menstrual periods, she would have extreme nervous symptoms. The administration of ovarian extract would bring about menstruation at the normal period each month, and after three months of the treatment she would go as long as six months and continue to menstruate. Then the interval between periods would begin to lengthen, necessitating the use of the extract again.

F. T. Fort: When I graduated in medicine about eighteen years ago, it seemed to be a fad to

take out the ovaries. Then we began to realize that we were doing the wrong thing, and a reaction set in, and I believe the consensus of opinion now is that we should be very conservative in dealing with the ovaries. By conservatism is meant to leave as much ovarian tissue as possible. However, where there are a great many adhesions about the ovary, where the omentum is carried over and is adherent to the tubes and ovaries, it is almost impossible to free the adhesions in such a way as to prevent a recurrence of the trouble, and the only thing to do is to take that ovary out, although, to all appearances, it may be a perfectly normal ovary. If what Professor Tappiere, of Paris, says is true, such an ovary may be removed and transplanted into the transversalis tissue, and continue to carry on its normal function. Where we are compelled to remove an ovary from one side because of adhesions, although the ovary itself is perfectly healthy, and then upon investigating the ovary on the other side, we find it to be diseased, we should trim away the diseased portion and leave as much of it as possible. Then, as a matter of precaution, we should bisect the ovary that has been removed, and introduce it into the transversalis fascia, thus adding to the amount of ovarian secretion furnished to the patient.

Jethra Hancock: I do not expect to add very much to the discussion of this excellent paper, except to bring to the attention of the surgeons some of the things that the general practitioner sees. I have been going over, in my mind, the number of women that have come to me in whom the menopause had been brought on prematurely by removal of the ovaries, and I do not recall a single one who seemed to think that life was worth the living, or who seemed to feel kindly towards the surgeon who did the operation. Our attitude towards the removal of the ovaries has changed during the past ten years. In former years, as Dr. Fort has said, it seemed to be the practice to take out the ovaries in nearly all cases of pelvic inflammation. I, myself, at that time, advised these patients to go to the surgeon and be operated upon, assuring them that they would never be well until they did. Yet they do get well, and many of them later bear healthy children. However, even if they are sterile, they enjoy fairly good health—much better than most of those I have seen that have been operated upon. I do not wish to be understood as saying that there are not many cases which surgery, as practiced at the present time will not benefit, but the indiscriminate removal of all diseased structures has done a great deal of harm.

Lee Kahn: I think Dr. Fort has struck the keynote of conservatism in advocating ovarian transplantation. The excellent work of Tuffier along this line merits more consideration than it has received in this country. As Dr. Fort has said where castration of a woman is necessary it is

good surgery to conserve in this way ovarian tissue, grafting it where it will receive a blood supply as rich as it is normally accustomed. It may be planted in the muscle wall of the abdomen but better yet in the subperitoneal tissue, where tenderness during its periodical congestion is less felt. To give the transplant a generous blood supply, Estis puts it in the uterine wall. Experimental work has demonstrated that autoplasmic grafts are far more successful than the hemoplastic.

Leon L. Solomon: Without meaning to enter upon the discussion of a surgical subject, which is rather foreign to the province of the Internist, I may be permitted to say a few words about the conservation of ovarian structures in operative cases, passed the change of life. This strikes me as the most important phase of the subject under discussion to-night. Surely, it is a matter of pride to this gathering that the present time sees so many and such dignified, scholarly gentleman championing the conservation of the ovary, in operations, both before and after the climacterium. To-day, few there are, who would dare think of removing the ovary in its entirety, unless the organ is pathologic in its entirety and beyond repair. Twenty years ago, such practice was a matter of daily, almost hourly occurrence. The wrecks of the surgery of those days were many, and they are still in our midst, themselves miserable, a curse to ourselves. We are taught by cases, such as Dr. Abell cites, that the ovary performs other functions and more important functions, than that solely in connection with the Divine command to "increase and multiply, that we may become as numerous as the sands of the sea." Modern physiology teaches that the function of the ovary continues until late years. Concerning a point, emphasized to-night, I can see but little benefit in changing a hitherto "passive" woman into an "active" or an "aggressive" woman; anything which brings about such a result is little short of calamity.

With reference to the employment of ovarian extract, which has been referred to by several of the gentlemen, who have entered the discussion, I am convinced that much good may come from it. I wish to emphasize what Dr. Richardson has said about the protracted use of ovarian extract, and also its very early employment. Where we are compelled to remove every vestige of the ovary, the saving of some tubal substance is worth while, and may serve to prevent a premature climacterium. Where it is necessary to remove every vestige of both tubes and ovaries, the early and persistent employment of ovarian extract will sometimes continue the menstruation uninterruptedly and continuously.

Chas. W. Hibbitt, (Closing): I am very much obliged to the gentlemen for their discussion of the paper.

In closing, I wish to speak to only one point

brought out by Dr. Kahn. Suppurative conditions in the pelvis often tax the surgeon's judgment in determining whether or not to leave an ovary. However, where the interstitial part of the ovary is not affected, I believe we can safely leave it.

CHRONIC PROSTATITIS FOLLOWING URETHRAL NEISSERIAN INFECTION.

By CLAUDE G. HOFFMAN, Louisville.

Chronic prostatitis represents a long-standing inflammation of the prostate gland, and is considered one of the most frequent and important complications of urethral Neisserian infection. There are two types, one the result of a catarrhal condition of the gland, the other following a follicular or parenchymatous inflammation.

In posterior urethritis, resulting from gonococcal infection, the organisms usually find their way through the prostatic ducts into the gland itself, but frequently perish there without producing any inflammation.

Prostatic infection usually occurs in persons given to excesses, such as alcoholics, masturbators, and those whose occupations keep them almost constantly upon their feet. This causes the gland to be in an almost chronic state of hyperemia, which is a very favorable condition for growth of the organisms of Neisser.

It is claimed by most authors that prostatitis is a complication in ninety per cent. of all cases of posterior urethritis. Frank (quoted by Valentine and Townsend) reports one hundred per cent. of infections of the prostate gland after posterior urethritis; whereas, other authors report prostatic infections without even the slightest symptoms of posterior urethritis.

The diagnosis is not always easy. The most valuable information is usually obtained by rectal palpation. However, palpation of the prostate is very disagreeable to most patients. Naturally a foreign substance in the rectum will cause a great deal of uneasiness, giving the patient a desire to defecate. I have come in contact with hyperesthetic patients in whom I could scarcely palpate the prostate, the muscular contractions being so great that I could not overcome them.

The normal prostate varies in size, therefore a large gland does not always mean a diseased one; but if the lobes show an essential difference in size, with tender spots in one or the other, the condition is usually pathological. The width of the interlobular cleft has no clinical significance except in prostatic hypertrophy. The general density of the

normal prostate is less than that of the cervix uteri. Some prostates will be found hard and firm, others soft and elastic; the soft, doughy kind ought always to arouse suspicion. The consistency will vary with the sexual exercise of the gland.

It is generally possible, by light massage of the gland, to obtain a few drops of the prostatic secretion; but if you find this impossible, it is a good plan to have the patient void a part of his urine before the massage, saving the remainder until afterward, which will remove any secretion remaining in the urethra. This urine should then be centrifugalized and examined microscopically. Better results can be obtained by irrigating the anterior urethra with a boric acid or normal salt solution, then letting the patient void his second urine.

A knowledge of the microscopic appearance of normal prostatic secretion is of course necessary. The secretion massaged from a normal prostate, microscopically, contains cuboidal epithelial cells, a scanty number of leucocytes, a small number of yellowish corpuscles varying in size known as "lecithin corpuscles," and occasionally a few spermatozoa; although, the presence of numerous spermatozoa would point to involvement of the seminal vesicles and ejaculatory ducts. The presence of the organisms of Neisser in the prostatic secretion, regardless of clinical symptoms, assures you of your diagnosis.

Goldberg gives a simple test for recognizing pathological prostatic secretion, as follows: A drop of normal secretion placed on a glass plate appears as a uniformly milky fluid; whereas the abnormal secretion appears as an incomplete emulsion.

The symptoms of chronic prostatitis are variable, and purulent cases have been known to run their course without being recognized by the patient. It may manifest itself in the form of sexual neurasthenia, the patient being entirely ignorant as to his prostatic disorder. Patients of this kind are very hard to convince that their condition will remain unchanged unless the cause is removed.

As the prostate is situated at the crossing of three tracts.—the urinary, genital and intestinal,—it can readily be seen from the anatomic and physiologic relation of the gland to other organs, that disturbances due to inflammation may manifest themselves in symptoms referable to the urinary, the sexual and digestive tracts. The tract itself may manifest symptoms of either motor, sensory or secretory disturbances, therefore it is almost impossible to enumerate all the symptoms of chronic prostatitis.

Dysuria is generally an early symptom, and the frequency of urination is usually increased. The patient may suffer with nocturnal

or premature emissions and sexual impotency. Pain in the loins, inside of the thighs,—especially after defecation when constipated,—pain in the abdomen, headache, pain radiating along the spermatic cords, testes, and penis. The gravity of the case has to be judged by the severity of the subjective symptoms. There may be a constant discharge from the urethra in cases where the urethra is small with few folds and the gland secretes abundantly. Retention of urine is not an uncommon complication, and should be handled with much care.

The differential diagnosis between Neisserian infection of the prostate, and chronic posterior urethritis due to infection by the organisms of Neisser, is difficult. The secretions may mix, then again the prostatic secretion may flow backward into the bladder, thus causing a turbid urine or a clear urine containing filaments.

In the differential diagnosis of senile hypertrophy, the age of the patient has to be taken into consideration, also, the presence of residual urine, and the absence of pus in the expressed secretion.

In tuberculosis of the prostate, the diagnosis can only be made positive by the microscopical finding of the tubercle bacilli.

During the course of chronic prostatitis you may have a urine loaded with the organisms of Neisser, resulting from rupture of a small encapsulated abscess, which most frequently clears up in a few days if massaged and the bladder and urethra irrigated. These abscesses most frequently rupture into the urethra, less often into the rectum. The following table by Sigmond (as quoted by Guiteras in a series of 145 cases) gives the relative frequency of the locality in which prostatic abscesses rupture:

Into the urethra	64
Into the rectum	43
Into the perineum	15
Into the ischio-rectal fossa	8
Into the inguinal region	8
Into the foramen ovale	2
Into the navel	1
Into the sciatic notch	1
Into the angle of the false ribs	1
Into the peritoneum	1
Into the prevesical cellular tissue	1

In most cases of prostatic abscess the pus will be found blood-stained, and sometimes pure blood is discharged after urinating. The treatment of prostatic abscesses is surgical, and if they can be detected before rupturing, they should if possible be opened by the perineal route through the prostatic urethra.

Albuminuria in connection with prostatitis with an absence of a large amount of pus or

spermatazoa, usually is traumatic in origin and transitory in character.

The prognosis of chronic gonococcal prostatitis depends a great deal upon the healing of the coexisting urethral infection. We know that as long as the urethral infection remains unhealed, so will the prostatitis, caused by re-infection from the urethra. It is never advisable to predict a cure in less than six months, as the time varies in different cases, and some will take much longer.

In the treatment of these cases, the first thing to accomplish is to destroy the gonococci, and do away with all narrowing of the anterior urethra; then practice dilatation of the posterior urethra with a Kollman or other prostatic douches; urinary antiseptics; such remedies as may be indicated for the bowels and the patient's general health.

As a general routine I have the patient report to me twice weekly for treatment, excepting at the time of an exacerbation, alternating with massage and dilatation. I follow each treatment with urethra-bladder irrigation of either nitrate of silver or permanganate of potassium; if there is much involvement of the posterior urethra, instillations of silver nitrate 1-500 to 1-50 with either an Ultzmann or Guyon syringe. I have had some very brilliant results with the vaccines especially in exacerbations, but never very encouraging results in the simple chronic forms.

Massage is the most important in chronic prostatitis. It frees ducts which have been obstructed, causes absorption of chronic exudates, and aids pus to drain and escape. In this procedure the lubricated index finger is generally inserted into the rectum following the curve of the sacrum and to the right side. After the prostate has been located, as it is a movable organ, it is necessary to fix it, and while so doing to press it as far as possible toward the finger in the rectum. The fixation and pressure are obtained by the fingers of the left hand pressing downward upon the prevesical region. In massage of the prostate, the apex should be the first point of attack, the finger slightly bent and withdrawn with each stroke and the force gradually increased. Ordinarily prostatic juice will appear at the meatus before the finger has attained the middle of either lobe.

Hot or cold rectal douches will be found very serviceable following massage, especially the cold douche; or the cold rectal psychrophore is advantageous in cases of atonic impotency and prostatorrhoea. Most of these cases require tonic treatment, such as strychnia and some preparation of iron. Basham's mixture is very popular and serviceable.

During the course of treatment we will encounter acute exacerbations, which are treat-

ed in the same manner as an acute prostatitis. The patient is put to bed on a liquid diet; urinary antiseptics, anti-spasmodics, and laxatives, are given internally; hot applications to the abdomen; sitz baths; hot rectal saline douches every three to four hours. These rectal douches are given with a fountain syringe with the ordinary rectal tube, or better with a return flow tube made for this purpose.

Patients suffering with chronic prostatitis should be very careful about their dress and footwear in cold rainy weather. They should wear warm clothing and rubbers, avoiding all drafts of air and dampness.

DISCUSSION.

Leon L. Solomon: I feel a hesitancy in undertaking to discuss a paper of this sort, on a subject, which is entirely out of my line, except insofar as the general practitioner or internist sees such cases by chance, possibly complicating other conditions. I happen to have seen one such case recently, in which the patient had a chronic abscess of long standing, and I was rather impressed by the fact, that, in this case, the abscess gave rise to practically no symptoms, and had gone undiagnosed, although the case had been under the observation of a practitioner, in attendance quite a time. I say this without intending any reflection upon the practitioner in question, but simply to emphasize the fact, that the trouble could have existed, over a rather protracted period of time, without the attention of the attending physician having been directed to it. The diagnosis of abscess had however been previously made, because, when it was concurred in at consultation, the patient, a married man, remarked that the diagnosis had been made in the East and he had said nothing about it, because he was ashamed to call attention to that portion of his anatomy. Rupture occurred on the day that we were about to attempt some surgery, the abscess emptying through the perineum.

While not exactly in line with this subject, I would like to mention, while on the floor, the fact that I also saw recently an abscess, following an old chronic prostatitis in which there had been a Neisserian infection, years ago, but the gonococci could not be demonstrated on this particular occasion, the abscess being tuberculous in character, although no bacilli were demonstrable in the urine. Dr. John D. Allen did a guinea pig inoculation for us, in this case, and, on the seventeenth or eighteenth day, the guinea pig showed a general tuberculous involvement.

I mention these two cases because, in the first one, in particular, the abscess had surely existed for some time, and had been diagnosed by a physician in the East, some months previously, yet the patient returned home to his family and to his wife's bed, and refused to make known any

symptoms or signs, which might have led to the diagnosis by his then attending physician, until rectal examination disclosed the abscess on the occasion of the consultation.

It occurs to me that this organ, which gives the specialist so much trouble, may sometimes be the seat of serious disease without giving rise to any symptoms which would justify an examination and lead to the diagnosis of the condition, and it is to that phase of the subject, that I have particularly addressed myself in these remarks.

Wm. Sanders: I have enjoyed the paper very much indeed. Just one point in regard to the symptomatology. I remember one case that I had in which an acute condition finally developed into a chronic prostatitis, followed by a very severe sciatica, the pain radiating down the calf of the leg to the heel. Under massage of the prostate and the use of an autogenous vaccine, made by Dr. Allen, a very brilliant result was obtained in this case. The vaccine cured the sciatica, although I was not able to get rid of all the infection in the prostate.

W. C. Dugan: Vaccine in the treatment of sciatica appears to be something new. I would like for Dr. Hoffman, in closing, to tell us about it.

Albro L. Parsons: I would like for the essayist, in closing, to tell us how often he has observed the symptom of pain in the heel as an indication of prostatic disease. Butler's work on diagnosis, under the head of "Pain," shows the picture of the heel, and at the end of an arrow pointing to it, the words "Prostatic trouble."

Claude G. Hoffman, (Closing): I did not mention chronic abscess in my paper, but I remember one case which ran along for six or seven months, beginning in the right lobe and continuing until both lobes had sloughed away, without giving rise to any symptoms with the exception of this sloughing draining through the urethra.

In reply to Dr. Sanders' question, I have never seen pain radiating down to the heel except in old cases of hypertrophy of the prostate. I have seen patients that complained of pain in the calf of the leg, but I have never seen one that complained of pain in the heel.

Dr. Dugan asked about vaccines in the treatment of sciatica. In Dr. Sander's case it would be hard to tell whether that symptom were coming from the prostatic condition or not. I have never seen neither autogenous or stock vaccines do any good in the treatment of chronic prostatitis.

Sugar and Lactic Acid in Blood.—The authors' experiments demonstrate that lactic acid is readily produced in the liver as a result of local stagnation of blood flow. This production of lactic acid, they believe, is probably dependent on the asphyxial condition which is induced, and it is very likely from glycogen that it is derived.

OSTEOMYELITIS.

By C. W. KARRAKER, Louisville.

It is impossible to cover this subject very minutely, for this disease, while not rare, is not seen frequently, and many times not diagnosed. The non-suppurative or acute variety is usually traumatic in origin. Such as fractures, contusions, etc. Under these conditions it could scarcely be called a disease. The occurrence of suppuration in simple fracture is very unusual.

Acute Infective Osteomyelitis. It is an acute inflammatory disease of pyogenic origin principally in long bones of young people. This is by far the most important and most common inflammatory disease of the bone.

Etiology. Age, before puberty. Trendelenburg says very few contract it after seventeen years of age. Sex. Males, about three times as often as females, probably because they are more subject to sprains, contusions, and wrenches, which are exciting causes.

All febrile diseases, as well as exciting causes. For instance, measles, scarlet fever, whooping cough, bronchitis, typhoid fever, etc.

The above is not always the case, as it may occur as well in those of robust health. It is an unaccountable fact that it does not occur as frequently in fractures and dislocations as in slight injuries. Swimming has caused it. The long bones of the lower extremity are most frequently affected. It may have a multiple foci, that is may have more than one bone affected.

Bacteriology. Germs of this disease are pyogenic organisms and found to be pure cultures as a rule. When the streptococci invade it seems to affect the joint. For this the writer is unable to find anything with reference to the reason why. Other germs may be the cause. Typhoid, pneumococci, colon, etc., with rarely a combination.

Mode of Entrance of Germs. As it commences deeply, necessarily the germs must be circulating in the blood. This being the case there may be infection from ulcer, inflamed wound, tonsils, skin, mouth, or any part of the respiratory tract. In many cases, however, there is nothing to indicate the origin of infection.

Pathology. The disease usually begins in the spongiosa part near the epiphysis. In many cases it remains in this area, but in the majority of cases it spreads to all parts of medullary.

Necrosis of the middle section of the shaft without necrosis of the terminal portions adjacent to the epiphysis is said to be unknown. This infection burrows in and takes place of the cellular and fatty tissue it breaks down

or absorbs or forces itself by pressure into veins and lymphatics. The latter explains the fat emboli which are sometimes found in the lungs, also the tendency of this disease to become pyaemic through these emboli. The pus by accumulation loosens the periosteum and strips it off by pressure.

Regeneration of Bone. Compact bone tissue has very little regenerative power. The formation of new bone is almost all by the periosteum and the membrane lining, and the medullary spaces. When first formed it is soft and bulky, but gradually becomes hard.

Symptoms. As stated in the etiology this disease is most generally found in cases before puberty. The onset is usually by chill and followed by fever of 103-105. This continues with remissions throughout the disease or until relief is given by nature or by incision. The pulse runs as a rule in accordance with the temperature.

The skin in early cases is hot and dry. Often distinct flushing indicating the activity of the circulation. Very young children may begin with a convulsion and some delirium. These may continue until relieved.

Loss of appetite, headache, vomiting, dry coated tongue, foul breath, dry skin, delirium, and later muttering typhoid type. In some cases symptoms similar to meningitis. The pain complained of is agonizing, but the powers of locating the part appear to diminish, often too in children too young to give only a vague idea of the seat of pain. In the older the pain is usually referred to the limb affected, but may not be right at the seat of the disease. Tenderness on pressure can generally be found early. In searching for the tender point exert pressure at suspected epiphysis and on the shaft near it. It may be necessary to examine all the epiphyses as swelling does not appear as a rule until two, three or four days and even longer. When it does come it forms part of the joint above or below, not in the sides like other joint diseases.

With even a great amount of swelling, it is very difficult to get fluctuation because of the depth of the fluid from the surface. An examination of the blood shows a marked leucocytosis and should always be examined in cases of doubtful diagnosis.

After the disease has fully developed the child will get in postures to relax as much as possible the muscles. Any attempt to alter these postures by movement of the limb greatly increases the pain.

Complications. Thrombosis of both veins and arteries. From emboli abscesses may form in lungs, kidneys, heart, muscle, spleen or brain.

Diagnosis. It is probable that this disease

of children is one of the most important for early diagnosis, and yet leading text books will tell you that a large majority are diagnosed on the post mortem table.

The diseases most frequently confused with osteomyelitis are acute articular rheumatism, meningitis and typhoid fever. Rheumatism is rarely confined to one joint, the swelling is opposite the joint, and becomes manifest earlier in the disease. It fails to have evidences of septic intoxications at onset. Also the pain is more of a dull ache. There is perspiration with rheumatism, and leucocytosis is not present. Meningitis has usually a retraction of the head and pains on moving any limb. Typhoid may be differentiated by the Widal test and leucocyte count.

Prognosis. Occasionally a type is encountered with such profound symptoms that a fatal result is a foregone conclusion from the first. In rare cases death occurs in thirty-six hours. At times the case is so mild that it terminates without suppurating. In these cases there is simply a thickening of the bone which may become active years later. The ultimate results when the whole thickness of the shaft is affected, or necrosed is that the bone is usually shorter than its fellow on the opposite side. Where more than one bone is involved, as in radius and ulna, tibia and fibula then there may be a marked deformity. Where joints become infected they may have ankylosis. In cases in which after treatment has been neglected there may occur muscular contractures, resulting in deformities.

Treatment. Is strictly surgical and should be promptly incised. Poultices, counter-irritants, and abortifacients are absolutely useless. They are make-shifts, and tend to promote a false feeling of security. They are simply time consumers. Incisions should be free and yet respect the anatomical features of the locality as there may be some important structures to deal with. For instance in every one of the epiphyses one might open the joint cavity. There are a few enthusiasts that make long incisions, but as a rule a two or three inch incision is all that is necessary. Careful haemostasis should be exercised as the patient is always far below par. As a rule in acute cases dry dressings are best, while in a few, wet are to be preferred.

It may be necessary to irrigate as there must be a good drainage. Generally it is thought best to trephine or chisel right into the medullary canal. Few authorities seem to think it not necessary to go so deep. Look to the bowels and the appetite. Use nutritive foods, and do not confine rigidly to bed as a rule. Be careful about acquirement of muscular deformities.

If the operation for the removal of the sequestrum is undertaken at the proper time (just when separating from the living bone) the generation of the shaft will almost always be completed in a few months.

In rare cases it is necessary to amputate. For instance when there has been great exhaustion from pain, failure of nutrition, and prolonged suppuration.

DISCUSSION.

Bernard J. O'Connor: I do not know that I have very much to say on the subject of osteomyelitis from a surgical standpoint. It is a disease that we do not encounter very often, and I do not remember that it has ever been discussed before this society.

The diagnosis of osteomyelitis is a very important phase of the subject, in view of the gravity of the lesion under certain conditions, and the necessity for early operative steps. One very valuable aid in the diagnosis, which the essayist neglected to mention, is the use of the X-ray for the purpose of demonstrating abscess cavities, the changes in the density of the bone being apparent under the X-rays at a very early date. However, the physical signs are usually sufficient to indicate that these changes are taking place without the use of the X-rays. Differentiation between ordinary periosteal abscess and osteomyelitis is a very difficult matter without the X-rays, unless it is determined by opening the abscess. In periosteal abscess, healing rapidly occurs, but where there is an abscess in the medullary canal, or the bone proper, healing is delayed and a chronic fistulous tract is formed. Dr. Murphy, of Chicago, has made the statement that all cases of osteomyelitis, occurring out in the country, away from hospital and surgical facilities, should be operated upon by the physician who is called to see the case, which may be done with an ordinary razor and gimlet if no other instruments are available, the idea being to limit the destruction of bone and the absorption of septic material as much as possible. This may be advisable where a surgeon cannot be readily secured, but where a surgeon is available he should be called in at the earliest possible moment.

Jno. B. Richardson, Jr.: All text books emphasize the importance of early diagnosis and operative interference in osteomyelitis, but in my experience it has not been an easy matter to arrive at a positive diagnosis in these cases. There are so many things with which it may be confused in the early stage that no one should be severely criticised for putting off operation at this time. I do not mean to be understood as saying that we should not operate early, but to arrive at a positive diagnosis of osteomyelitis, so that we can be sure of what we are doing, is often a very difficult matter. Of course, I believe that when the

diagnosis is established, operation should be at once carried out.

In regard to Dr. O'Connor's remarks, I do not believe that Dr. Murphy meant by his statement that the mere drilling of a hole in the osteomyelitis would result in a cure if the condition had advanced to any extent. Unless the opening is large and the operation radical, it would hardly do more than produce alleviation of the symptoms to some extent.

F. T. Fort: I believe that all cases of osteomyelitis are of metastatic origin. In practically all cases a search along the bone will disclose a tender spot, and it is at this point that Dr. Murphy advises that a hole be drilled. I have heard eminent surgeons say that it is really an advertisement of bad surgery to exhibit a large sequestrum that has been removed from one of these diseased bones; that if the diagnosis had been made early, the sequestrum would not have formed. I do not believe there is any class of cases that require more careful searching to ascertain the condition than osteomyelitis. It comes on over night, and sometimes if it is not done within a few hours or a day or two at the longest, the disease will have progressed so far and there will be so much bone necrosis that operation will not accomplish much good.

J. Hunter Peak: I have seen a great many cases of bone disease, particularly inflammatory conditions, and it has been my experience that in many cases, no matter how quickly we get them, or what we do for them, bone destruction will take place anyhow. However, I believe with Keen and Murphy, that many cases can be relieved by quick operation. Even a small hole drilled into the bone will do a great deal of good. The best instrument for this purpose is an ordinary bone chisel, with which an opening sufficient to secure drainage can be very quickly and easily made.

Many of these cases, as Dr. Fort has suggested, are of metastatic origin. Some of the cases I have seen have been difficult to account for, the only contributing cause being a very slight injury. For instance, in a little scuffle between two boys, one of them sustains a slight injury to the shin, perhaps not sufficient to interfere with his walking, and yet three or four days later a very severe condition has developed. Some cases I have seen have begun with a periostitis, progressing within a short time to such an extent that if something is not done, the periosteum is stripped from the bone from one end to the other. The best thing to do in such cases is immediate amputation, well above the site of the lesion. Some of these cases develop from injuries to which one hardly pays any attention, such as striking the shin against a piece of furniture inflicting a very slight injury, and in a short time great pain develops, accompanied by high temperature and every evidence of extreme sepsis. How the infection starts I do

not know, unless through the blood stream, or possibly through the lymphatics. At any rate, it is there, and in cases of that kind, in order to save the limb, free incision and drainage is necessary. It does not make much difference how large the incision is; it will heal almost as quickly as a smaller one.

Every case of this kind is a law unto itself. Everything that is necessary should be done at one time. One opening is sufficient to drain the entire medullary portion of the long bone, as all of the spaces are intercommunicable. By making this opening you are giving the patient the best chance, and I think every case is entitled to that chance. Sometimes, however, no matter how free the drainage, the bone will be destroyed anyhow, and the only thing to do is to amputate above the trouble.

As the essayist has pointed out, this is one of the most dangerous conditions we have to deal with, as general sepsis is apt to develop, accompanied by the formation of emboli in the heart, brain or lungs, and your patient may die when you least expect it.

W. Edgar Fallis: Just a word in regard to the diagnosis and prognosis in osteomyelitis. I remember reading an article a number of years ago on the destruction of bone tissue in rheumatism, and if I remember correctly, the statement was made in that article that, in all cases of rheumatism beginning with chills and followed by high temperature, there was advanced destruction of bone tissue. That was before osteomyelitis was regarded as a distinct clinical entity. Practically however, the same thing is true to-day, and it will be found to be a very valuable aid in making a differential diagnosis. In nine out of ten cases, osteomyelitis begins with distinct chills and rigors, followed by high temperature, and the degree of temperature is always in keeping with the amount of pressure within the bone due to the infection which, in the majority of cases, is carried through the blood stream and is made possible by the lowered resistive power of the individual due to injury or any other cause, such as typhoid fever for instance. I wish to emphasize the fact that the amount of destruction of bone corresponds to the amount of pressure within the bone. That is why Murphy advises drilling a hole in the shaft of the bone, to relieve the pressure. If it does no more than simply decrease the amount of pressure within the shaft of the bone, it will lessen the amount of destruction of bone.

Albro L. Parsons: I think this is a very timely paper. Some one has said that acute osteomyelitis should be considered the appendicitis of bone. In other words, after a great deal of effort, we have reached the point where the general practitioner diagnoses appendicitis early and urges early operation, and the author I speak of, whose name has escaped me, believes that osteomyelitis should be dealt with in the same way.

One reason we do not get these cases earlier is because, when the average child complains of pain along the tibia, the mother pats it down to "growing pains," and twenty-four hours or more are lost in that way.

One type of this condition which I have never been able to understand, is that which follows exposure to cold. For instance, a child comes in after having received a wetting, say along in March, and that night it has a chill and the next day a very high temperature. In such a case, nothing helps us to differentiate the condition from rheumatism, or growing pains, as a blood examination will always show a leucocytosis.

I wish to emphasize what Dr. Fallis has said about drilling a hole in the bone. For a man of Dr. Murphy's ability, who can tell just where and when to drill a hole, that is all right, but for the average man it is better to cut a good wide groove down the tibia with a chisel, and it is better to over-cut it than to under-cut it every time.

I do not know of any condition in which conservative surgery should run along parallel with radical surgery so much as in osteomyelitis. The files of the *Kentucky Medical Journal* of about a year ago contain a report of a most interesting case by Dr. Jethra Hancock, in which there was regeneration of the entire tibia, which had been destroyed from one epiphysis to the other, and the man has a very good leg. It would seem, therefore, that, notwithstanding what the laboratory men tell us, the bone may be regenerated in this condition.

What Dr. Peak has said is all right, but it should not lead us to be too radical. I would hesitate to amputate in these cases until it is apparent that the condition is overwhelming the patient. There are times when radical steps must be taken, but I think it should run along hand in hand with conservatism.

A. C. L. Percefull: This is to me a very interesting subject, particularly at this time, as I have a case of osteomyelitis of the chronic type under observation. It has always been a question in my mind how far to go in these cases that are running along and giving very little trouble, and throwing off a little piece of bone every two or three months. I hesitate to interfere in such cases, because oftentimes it will only result in making the condition worse.

I would like to hear some discussion along this line: that it, whether or not we should interfere in cases that are giving very little trouble—no pain, no fever, and occasionally a little piece of bone working out in the region of the infection. Should a radical operation be done, or should Nature be allowed to take its course and throw off the dead bone, as it will.

C. W. Karraker, (Closing): I have not had a great deal of experience along this line. In Dr. Percefull's case, I would continue to do just as he is doing, and not interfere so long as there is no

fever, and these pieces of bone are being thrown off from time to time.

I wish to thank the gentlemen for their liberal discussion of the paper.

THE SELECTION OF THE ANESTHETIC.

By EMMET F. HORINE, Louisville.

INTRODUCTION.

New methods and many refinements in anesthesia have been brought forward within the last decade. At the present time many men in the larger cities are devoting all of their time or practically all of it to the study and administration of anesthetics as has been done in England for many years. Such work is a specialty in itself and worthy the devotion of a life time. The day has passed when a by-stander, an untrained assistant or a nurse with only a mask, chloroform or ether, and a tongue forceps is called upon to render unconscious, I should hardly say to anesthetize, the patient. In almost every town and even in the country there is at least one physician who has made a special study of anesthesia and who should be called for such work.

An anesthetist must be competent enough to skillfully administer any one of the well-known agents or to use any one of the reliable methods. A man who exclusively uses one drug or method is manifestly incompetent. I am convinced that even the safer agents, if given by improper methods or to unsuitable subjects, will as surely cause trouble as the most dangerous agent. A cursory analysis of anesthetic fatalities will convince one that quite often the method and not the drug must be blamed.

The most important duty of the anesthetist is the selection of the agent and of the method. The following points should be considered:

1. Mortality of the agent to be used.
2. Applicability of the agent and method for the particular operation to be performed. The surgeon should have a free field for his work so that he may do that work with ease.
3. The patient should be considered both from a pathological and from a psychological viewpoint. In some clinics little if any attempt is made to select the agent. Each patient receives the same treatment regardless of any indication to the contrary. This is especially true in those clinics where nurses are the anesthetists.

We have at our disposal the following methods of anesthesia: (a) local; (b) automatic inhalation; (c) intra-tracheal insufflation; (d) rectal; (e) spinal; (f) intra-venous; (g) electric. For local anesthesia cocaine or novocaine combined with epinephrin is usually employed. In inhalation methods nitrous

oxid, ether, ethyl chlorid and chloroform are the drugs ordinarily used. Intra-tracheal insufflation anesthesia may be maintained by nitrous oxid, though ether is the more ordinary agent. In rectal anesthesia ether alone though dangerous, was formerly employed but lately Gwathmey has introduced a mixture of olive oil and ether with which good results have been obtained. For spinal analgesia either novocaine or stovaine is now used in place of cocaine which was formerly used. For intra-venous work a five per cent. solution of ether in normal saline either alone or combined with hedonal (ten grains to the pint) may be employed. Solutions of paraldehyde and of isopral have also been found useful for intra-venous work.

As to the degree of favor in which these methods are held, either local or inhalation anesthesia or a combination of the two is favored by the majority of men. Rectal, spinal and intra-venous anesthesia each has its advocates though these methods have not as yet received the stamp of general approval. Electric anesthesia has been found successful with the laboratory animal and also in several instances upon the human subject for local analgesia but its possibilities are as yet unknown.

Of these methods the safest is local anesthesia and second to it is inhalation anesthesia. A combination of local with inhalation anesthesia as in the method of Crile would naturally occupy a place of intermediate safety.

In general it is best to administer a preliminary hypodermic of morphine and atropine or of morphine and scopolamine. In the case of an adult patient the dose should be from 1-6 to 1-16 grain of morphine and from 1-100 to 1-200 grain of atropine. When scopolamine is used the dose should be 1-200 grain or less. With children and the aged it is my rule to administer a small dose of atropine and no morphine.

In determining what agent to use the question of safety should be the first one to consider. The comparative safety of the various agents in ordinary cases and their safety in special conditions must be considered. Not only should the drug selected entail the least immediate danger but it should also cause the fewest delayed results. It is not enough to carry our patients safely through the period of induction and through the operation but we must always consider the possible after-effects. Authorities are agreed that post-anesthetic acetoneuria follows the exhibition of ether in a small percentage of cases, with chloroform in a large number of cases but never with nitrous oxid. The mortality for a given agent may be less than for another agent and yet for certain cases the ap-

parently safer drug would be the more dangerous one.

The agent should be selected which will be best tolerated by the patient. The ante-operative as well as the post-operative comfort of the patient must be taken into consideration.

LOCAL ANESTHESIA.

Local anesthesia is at present just coming into its own. It is undoubtedly true that the surgeon can perform his work with greater ease and rapidity when the patient is under a general anesthetic but there are many cases in which local anesthesia should be used even though the surgeon must go more slowly and carefully. Without doubt general narcosis produces more or less shock, it matters not how trivial the operation may be. But it is also true that with very nervous individuals, when a local anesthetic is used, the sight of the operation may even produce more shock than a general anesthetic would. In fact death has resulted from the use of local anesthesia in very nervous and weakened individuals. It therefore follows that cases for local anesthesia should be just as carefully selected as for any other method. The greatest field of usefulness for local anesthesia is in small operations though operations of any magnitude may be performed by proper attention to details. This method is of particular value in the country or in private homes when no trained assistants are at hand. In resection of a rib in empyema when the patient is very weak and septic and when the respiration and heart action are rendered difficult, the use of a local anesthetic is imperative. It is also best in patients suffering with diabetes mellitus; pneumonia; advanced phthisis; advanced renal disease; heart disease, after failure of compensation; and in all dyspneic conditions.

NITROUS OXID.

Without the slightest doubt, nitrous oxid with oxygen is the safest known inhalation anesthetic provided that it be properly administered. Nitrous oxid should never be given except by a careful and experienced person and its safety depends greatly upon whether or not it is given. In reality nitrous oxid is a dangerous agent if employed by an inexperienced person because its zone of anesthesia is so narrow. As a routine agent, nitrous oxid with oxygen is being used by an ever increasing number of men and it deserves to be so used. But it is certainly true that there are certain conditions in which nitrous oxid is absolutely contraindicated. If administered in the face of certain contraindications it really becomes a dangerous drug and I feel that its mortality rate, slight

though it is, is largely due to improper selection of the cases.

For operations of brief duration nitrous oxid is exceedingly valuable but it should never be used even for a minute unless oxygen is at hand for administration should untoward symptoms arise. As a preliminary agent to ether it is exceedingly valuable. Nitrous oxid-oxygen may be used for the majority of cases and particularly should it be used in the following conditions: diabetes mellitus, renal disease and phthisis where it is impossible to use local anesthesia. It is a very valuable agent in weak, anemic and cachectic patients as also in very nervous individuals.

In a nitrous oxid-oxygen case, if it is necessary to keep the patient cyanotic to maintain anesthesia, this agent is unsuitable. In such a case the percentage of oxygen should be increased and ether added or a change to ether alone should be made.

Mechanical obstructions of the respiratory passages are contra-indications to nitrous oxid. Plethoric or fatty patients are also not very suitable subjects because of the fact that their lung capacity is small in proportion to their body weight. Athletes, heavy smokers and alcoholics are also unsuitable subjects. In children nitrous oxid does not answer so well as ether. In patients over sixty years of age in whom atheromatous conditions are usually present, nitrous oxid would entail considerable risk of cerebral hemorrhage. Those with valvular defects, dilated hearts or myocardial change should preferably not receive nitrous oxid. Thyroid cases may receive it but if the gland is large with tracheal pressure it should not be used as ether by the semi-open method is better.

ETHER.

Only second in safety to and more available than nitrous oxid, ether is the best drug for general use. Of the various methods for its use, the closed, formerly so frequently employed, has been largely superseded by the various open methods. Administered by the open or semi-open method it is a very satisfactory and safe agent for the average patient. Ether given by either of these methods has the following advantages: (1) simplicity; (2) safety; (3) economy; (4) utility. A preliminary hypodermic of atropine or of atropine and morphine assists materially when ether is to be used.

Where possible the most agreeable method for ether is to use nitrous oxid as a preliminary agent. This sequence is very valuable with nervous and excitable patients. The period of induction is shortened, the period of visible excitement is usually absent and the amount of ether used is lessened. With this sequence I believe the preferable technique is

to first anesthetize with nitrous oxid-oxygen and then gradually to add the ether vapor to this mixture until the patient is thoroughly anesthetized. Then the gas is discontinued and the open, semi-open or vapor method substituted. It must be remembered that the contra-indications to prolonged nitrous oxid-oxygen anesthesia also hold good for its preliminary use before ether.

When nitrous oxid is contra-indicated ether may be given from the start. It may be claimed that it is very unpleasant when so given but this is true only when improperly administered. By very gradually increasing the concentration little, if any, unpleasantness is noticed. There should not be a stage of excitement except in a very small percentage of the cases, mostly in alcoholics. If the anesthesia has been an even one there is rarely any troublesome nausea or vomiting with this method. Following Gwathmey's suggestion I have used oil of orange as a preliminary to ether. It aids materially by masking the odor of the ether. I have, however, not noticed that the amount of anesthetic has been thereby lessened as some observers have claimed.

Ether may be used by some one of the various methods in the majority of cases. In valvular defects, in thyroid conditions, in mouth cases and in athletes I have found it of especial value. In pulmonary conditions ether may be given but nitrous oxid or local anesthesia is preferable. It was formerly advised that ether should not be given in chronic bronchitis but if a sufficient dose of atropine is previously given no trouble will be experienced. Preferably in cases presenting a permanent high blood pressure ether should not be given though in a few cases when it has been impossible to use any other agent, I have given it without any trouble. The special indications for the use of local anesthesia mentioned in a preceding paragraph would contra-indicate the use of ether. It must not be given when the actual cautery is to be used about the face.

CHLOROFORM.

For many years chloroform was given the preference over ether by the majority of men. Many investigations have been conducted to ascertain the comparative safety of these two agents. From a large number of statistics it appears that ether is not less than six or seven times safer than chloroform when the immediate mortality is considered. Chloroform is dangerous no matter by whom it is given. No one should attempt to administer it unless he has had considerable experience in anesthesia. It has certain advantages but these advantages do not, as a rule, compensate for its greater danger.

It was formerly stated that: "patients were

lost with chloroform on the operating table and with ether, afterwards." But it has been proven that delayed chloroform poisoning is not at all rare. Even in dilute dosage it undoubtedly causes more or less fatty degeneration of the liver and kidneys which may lead to a fatal effect days after the operation. This is particularly likely to occur in septic cases because in these the liver and kidneys have already been overworked. Acidosis in children, and aceturia and glycosuria in adults frequently follow the administration of chloroform. Particularly in obstetrical cases where also the liver and kidneys are already overworked, I think that chloroform should not be used.

The immediate danger from chloroform is usually circulatory in character. For this reason when it is given a phonendoscope should always be strapped over the precordia for the purpose of continuous auscultation. I have records of several cases in which the phonendoscope rendered very valuable aid in indicating approaching danger from chloroform. Children are not safer subjects for chloroform though in case of accident they are more likely to respond to prompt measures than adults. Apparently men are more susceptible to its action than women though they may be only apparently so from the fact that a relatively larger dosage is necessary to anesthetize.

Except in the following cases chloroform should not be selected: (a) operations which require the use of the actual cautery about the face; (b) in patients presenting a permanent high blood pressure; (c) in aneurysm; (d) patients in the Trendelenburg position take it well and if necessary for the purpose of securing relaxation it may be used in sequence to ether or to nitrous oxid-oxygen-ether; (e) obstructed air passages; (f) in all other cases *only* when it is absolutely impossible to use local or obtain nitrous oxid or ether anesthesia.

CONCLUSIONS.

In conclusion I desire to emphasize the following points:

- (1). The anesthetic must be selected for each individual case.
- (2). The field for local anesthesia is widening and it is very valuable in minor surgery and for the markedly handicapped patient.
- (3). Nitrous oxid-oxygen alone or combined with local anesthesia is the safest general anesthetic and should be used whenever possible.
- (4). Ether must still remain the anesthetic of choice for the majority of physicians.
- (5). Chloroform is dangerous and should be used only when positive indications are present for such use.

(6). Rectal, intra-venous and spinal methods are still on trial.

DISCUSSION:

W. Hamilton Long: I wish to compliment the essayist upon his paper, which is a most excellent one, and I agree with him in all that he has said, and especially the conclusions he has drawn. I am very decided in my belief that the anesthetic should be fitted to the patient, rather than the patient to the anesthetic. No one agent or method of anesthesia is applicable to all cases.

I believe we will have to stick to ether as the main-stay in anesthesia for quite a while yet. Nitrous oxid and oxygen undoubtedly has a tremendously wide field, and I would not be without it in my armamentarium, but I believe in selecting the cases for which it is suitable. Some of us, I am afraid, have not been absolutely honest about nitrous oxid and oxygen anesthesia; we have given nitrous oxid and oxygen and then ether q.s. and called it a nitrous oxid and oxygen anesthesia. That is not exactly square, but there are undoubtedly many cases in which it is the safest method to employ. Nitrous oxid and oxygen anesthesia has its disadvantages. One of them is that no one, not even the most skillful anesthetist, can produce with it the same degree of muscular relaxation secured from either chloroform or ether, but it is invaluable in the presence of conditions which contraindicate the use of chloroform or ether, such as pulmonary complications, acute bronchitis, acute nephritis, etc. However, the surgeon should understand beforehand that it will be impossible to get the same degree of muscular relaxation that follows the administration of ether or chloroform. With the addition of Crile's anoci-association method, a considerably greater degree of muscular relaxation can be secured, especially in abdominal operations, and it is only here that complete relaxation is absolutely necessary.

As to chloroform, I use it only in infants. I do not recognize any indications for chloroform in any person over four years of age. Recently I received a reprint of an article by one of the anesthetists in the Mayo clinic in which the statement was made that, until two or three years ago, they had considered chloroform especially indicated in certain cases, but that in the past three years they had eliminated even these indications, and had abandoned it entirely. I do not concur in this view, however, chloroform undoubtedly has a field, and there are types of cases in which I would not use anything else.

I have been rather surprised by the fact that some of the large clinics which use ether anesthesia do not employ nitrous oxide and oxygen as a preliminary. This method has everything in its favor; the post-operative nausea is markedly diminished because the anesthetist can wait until the swallowing reflex has been entirely abolished before beginning the ether. In giving ether

from the beginning, you will have noticed that when the patient has become a little groggy, so to speak, the saliva and mucus, which are ether-laden, are swallowed from time to time. This goes to the stomach and lays there, and greatly aggravates the post-operative nausea. It is a fact, borne out in my own experience, that ether anesthesia, when nitrous oxid and oxygen is given as a preliminary, gives rise to far less post-operative nausea than when administered alone. That is only one of the advantages of this method. Another is the lack of unpleasantness experienced by the patient in taking the anesthetic. After three or four deep breaths of the nitrous oxid the patient becomes unconscious.

In naming the contra-indications to the use of nitrous oxid and oxygen anesthesia, the essayist mentioned arteriosclerosis. It is true that, theoretically, this condition always constitutes a contra-indication to nitrous oxid and oxygen. Practically, however, I do not hesitate to give it to patients with a marked degree of arteriosclerosis and with high blood-pressure, but it should be borne in mind that the percentage of oxygen given must be increased accordingly. It is true that nitrous oxid gas increases the force of the heart-beat, and consequently the intra-arterial pressure, due to the carbonic acid formed, and for that reason it must be diluted with oxygen to a greater degree than ordinarily. Of course, theoretically, there would appear to be danger of rupturing a blood vessel, but practically, this is not true, and this I believe is in accord with the views of anesthetists who have done the greatest amount of work with nitrous oxid and oxygen anesthesia.

The chief contra-indication to the use of nitrous oxid and oxygen anesthesia is the type of individual mentioned by the essayist; namely, large fat people, laborers—those whose everyday life is out of doors, with powerfully developed muscles; also alcoholics, and those of limited lung capacity. It is necessary to have both lungs working all over in order to absorb sufficient gas to produce anything like a satisfactory anesthesia.

I wish to indorse Dr. Horine's attitude towards this question. In my opinion, the giving of anesthesia is a full-fledged specialty within itself, and should be accorded the same dignity as any other specialty. Before choosing the anesthetic to be administered to a given patient, the anesthetist should get all the information possible which may have a bearing upon the question. He should have before him an urinalysis, ascertain the habits of the patient, examine the chest, etc., and then after considering all this, as well as the type of operation to be performed, he should choose the agent which is best suited to that particular patient and that particular operation at that particular time, and if there is any doubt in his mind as to the anesthetic to be employed, then

the choice should be the result of a consultation between the anesthetist and the surgeon.

I also wish to indorse the preliminary administration of atropin and morphin. I usually give both but sometimes omit the morphin, particularly when it develops that the patient has an idiosyncrasy to morphin. It has been my observation that morphin is often the cause of nausea during the induction stage of the anesthesia, as well as post-operative nausea. I am coming more and more to give nitrous oxid and oxygen only, omitting the preliminary medication entirely except where the patient is extremely nervous. Years ago in a series of cases in which I used scopolamin and morphin, I observed a peculiar type of breathing which I soon learned to associate with the use of scopolamin or hyoscin, the action and chemistry of which are identical. On account of this peculiar type of breathing, which I did not like, I abandoned the use of both as a preliminary to anesthesia, substituted atropin, and my trouble cleared up.

E. L. Henderson: I think the society owes Dr. Horine a vote of thanks for the excellent paper he has given us.

The giving of anesthesia should be considered as much a speciality as any other special branch of medicine. I heartily agree with Dr. Horine that any man who claims to be an anesthetist should be able to give any form of anesthesia; the man who gives nothing but ether or chloroform is not an anesthetist in the true sense of the word. Personally, I give ether, chloroform or nitrous oxid and oxygen, as may be required. The man who claims to be a properly fitted and trained anesthetist should be able to give any one of these agents as well as the other. There are many cases in which any one of these three forms of anesthesia may be contraindicated. Therefore, prior to the operation, the anesthetist should be given an opportunity to make an examination of the patient, study the case and determine which is the proper agent to use in that particular case. Usually the anesthetist does not see the patient until he is brought into the operating room. I do not believe this is right, because the patient upon being brought into the operating room is always more or less nervous, and one cannot make a satisfactory examination under these conditions.

Personally, I am inclined to favor chloroform as a general anesthetic, especially in children, and I do not limit myself to those under four years of age. I believe that in children up to the age of ten years, chloroform is the anesthetic of choice. I never give nitrous oxid and oxygen to children under the age of ten, unless it is especially desired by the surgeon, because I believe it is really the most dangerous anesthetic we can give to children under that age.

As to the preliminary hypodermic, I do not think we should follow a routine in this respect. In some nervous patients, especially women, it is

well to give a preliminary hypodermic of atropin and morphin, and we should give atropin as a preliminary to ether anesthesia in all cases. When nitrous oxid and oxygen is given as a preliminary to ether we do not have the same amount of mucus and saliva, but still a hypodermic of atropin will do no harm, and it may help a great deal.

Nitrous oxid and oxygen anesthesia is the method of choice in the average adult. Of course, it has its disadvantages, not the least of which is the expense attached to it, especially if the operation consumes considerable time. Furthermore, I believe nitrous oxid and oxygen is a most dangerous anesthesia in the hands of the inexperienced. To administer it properly, one must have had some experience. A marked degree of cyanosis in the patient is an indication that the anesthetist has not had much experience. A much better degree of relaxation of the muscles and a safer anesthesia are secured when the cyanotic condition is avoided.

Dr. Horine has certainly presented a splendid paper, and I have enjoyed it very much indeed.

J. Garland Sherrill: I believe all of us agree with practically everything Dr. Horine has said. I wish to bring out, a little more fully, some of the points made by the essayist. One of them is with reference to methods of anesthesia other than by inhalation; namely, by rectal injection, intravenous administration, etc. In my opinion, the administration of hedonal or ether intravenously, is dangerous, for the reason that we may unexpectedly overwhelm the patient by a lethal dose of the agent, and we have no means of controlling the anesthesia after it has been administered. By the inhalation methods we have the anesthesia under complete control, but this is not true of intravenous anesthesia. A number of writers on the subject have called attention to the danger of narcotizing the patient beyond the power to regain consciousness, and have reported instances in which patients have remained unconscious for hours after the administration of intravenous anesthesia.

I also wish to sound a note of caution with reference to the old-fashioned method of giving ether by the rectum. A number of years ago I had a very distressing experience with a patient that was brought to me from the mountains of Kentucky for operation for cleft palate. Ether was administered by the rectum and the patient took it very nicely at first, but in some manner the bottle of ether was upset and the ether evidently flowed into the rectum. This patient developed the most intense tenesmus and passed bloody stools for a number of hours after the operation. The patient later died of an intussusception, which I believe was due to the irritation induced by the ether.

To my mind the selection of the anesthetist is as important as the selection of the anesthesia.

The man who is afraid, and allows the patient to alternately come out and go under the influence of an anesthetic, is a dangerous individual to have for an anesthetist. Likewise, the use of a greatly diluted vapor of ether, prolongs the anesthesia and, although the patient becomes thoroughly saturated with ether, yet the anesthesia secured is not satisfactory. Some anesthetists will use six or seven 500 gm. cans of ether for an anesthesia that a really competent anesthetist would get through with by using one can or less. I have seen instances where considerable abdominal manipulation has been made under the administration of not more than 100 gm. of ether.

I agree with Dr. Horine that, for one to become expert in giving anesthesia, he must give the subject the same careful study that he would to become proficient in any other branch of medicine.

As to the anesthetist assuming the entire responsibility in the selection of the anesthetic, I do not believe I can concur in that view. After all, it is the surgeon who must be responsible for the outcome of the case and, as the general in the field, he must be in supreme command. However, I agree with Dr. Long that it is a wise plan for the anesthetist to consult with the surgeon in regard to the method of anesthesia to be employed, and the opinion of the anesthetist should certainly carry considerable weight.

C. B. Spalding: It seems to me that the competent anesthetist is very frequently handicapped by unnecessary and frequent manipulation of the viscera on the part of the operator. In many cases the danger from anesthesia of any kind lies, not at the door of the anesthetist, but is due to a lack of skill on the part of the surgeon. The sooner we learn to manipulate only to such an extent as may be absolutely necessary, the better results we will have.

C. H. Harris: I recall that, during my first course of lectures, when I began to study medicine, it was the practice of the late Dr. Holloway, when he desired to perform an operation of any kind, to call upon first one student and then another to give the anesthesia, giving them all a chance. Of course, the day of such practices has passed. I believe we will all agree that the safety of anesthesia of any kind depends upon the degree of skill with which it is given. It is really an art to get a patient under just the proper degree of anesthesia and keep him there throughout the course of an operation. I can remember when it was considered the proper thing to get the patient what Dr. Holloway called "ether drunk" or "chloroform drunk" for various minor operations.

For my part, I always insist upon the anesthetist receiving a fee commensurate with his skill in giving the anesthetic. We should endeavor to impress upon the laity that the skillful

administration of anesthesia is an essential feature of any operation.

So far as the use of scopolamin is concerned, I remember one case in which it was administered to a woman with a valvular heart lesion, who had been in bed for six weeks, and she developed the delirium that is characteristic of the effects of that alkaloid. I believe the natives of the country where hyoseyamus comes from call it "insane root," and chew it as a means of producing intoxication. I believe that scopolamin, as well as aconite and veratrum viride are dangerous in the extreme. It is all right to give a preliminary hypodermic of atropin, in order to dry up the mucus, saliva, etc., but it is a wise plan to keep away from morphin. We should select the anesthetist with as much care as we do the anesthesia, and not allow every Tom, Dick and Harry to give anesthesia for us.

D. Y. Keith: I wish to speak to just one point which I do not believe has been fully covered, that is the psychic element in anesthesia. Very often the anesthetist does not have an opportunity to see the patient until he is brought into the operating room, and he consequently has only a few minutes, but he can put those few minutes to the greatest advantage in allaying the nervous fears of the patient and impressing upon him the fact that the anesthetist knows his business and that, so far as the anesthesia itself is concerned, the patient need have no fear. If the confidence of the patient can be gained he will usually go on to a quiet and satisfactory anesthesia, whereas if anything is allowed to disturb or frustrate an already nervous patient, it will almost invariably be followed by a very stormy induction period.

I was glad to hear Dr. Horine say that he limits the amount of morphine given as a preliminary to 1-6 grain. It has not been very long since it was the general practice to give 1-4 grain to a man and 1-6 grain to a woman. Now we rarely give over 1-8 grain along with 1-150 grain of atropine. Only in cases where the individual is of very nervous temperament, in alcoholics or very robust, athletic men, should we give more than 1-6 grain of morphin.

I have enjoyed the doctor's paper very much indeed.

Michael Casper: The last word on anesthesia has not yet been said. We are constantly on the lookout for some newer and better method of anesthesia than any of those now in use. I am not nearly so old as Dr. Harris, but some eighteen years, before I ever saw a medical college, I considered myself to be a much better anesthetist than I do to-day. My old preceptor, over in the hills of Indiana, allowed me to give anesthetics for him long before I went to medical school, and to-day I tremble to think of the many narrow escapes I must have had.

In his remarks concerning intravenous anesthesia. Dr. Sherrill takes a stand just opposite

to that of the men who have done the most work with this form of anesthesia. They claim that for any anesthetic to produce its effect, it must enter the circulation, whether through the lungs, through the rectum or directly, by intravenous injection, and that it can be controlled more readily by the latter method than in any other way, for the reason that, by the inhalation method, the anesthetic continues to be absorbed for some little time after its source has been removed. I believe that, after this question has been worked out a little further, the intravenous method will prove to be a very good one in selected cases.

Scopolamin, hen-bane and night-shade all belong to the same class of drugs. Scopolamin, is to hyoscin as hyoscyamin is to atropin. Scientific experiments on animals have proven scopolamin and hyoscin to be exactly similar in chemistry as well as in physiological effects.

I believe we have all benefited by the excellent paper Dr. Horine has given us.

Edward Speidel: In regard to anesthesia in children, I gave anesthetics in the days when chloroform was used exclusively in this class of cases. The method I used was, in beginning the anesthesia, to hold the chloroform mask some two feet away from the child's face and, while talking to the child in a reassuring manner, gradually lower it until it covered the face. In this way I was generally able to anesthetize the child without its being aware that the anesthesia had begun. I recently read of an ingenious method, consisting of dropping a little perfume on the mask before the chloroform or ether is applied. The perfume may be said to cause a preliminary anesthesia; at any rate, the odor is agreeable and the child inhales it readily. Then the anesthetic is gradually added and the anesthesia is accomplished without arousing the fears of the child.

Bernard Asman: Nitrous oxid gas and oxygen anesthesia is undoubtedly gaining in popularity and, I think, deservedly so. I believe it will be generally agreed that rectal operations require very deep anesthesia. Some two years ago, when nitrous oxid and oxygen anesthesia first came into prominence, it was generally believed that it was suitable only for operations requiring a very short time. Gradually, however, the time limit has been lengthened. I remember a patient in whom some minor operation was performed under gas and oxygen anesthesia, and after this was done I discovered that there was an internal fistula as well as internal hemorrhoids. I was somewhat doubtful as to the propriety of proceeding further at that time, but the anesthetist said that the patient was doing very well, and to go ahead. To make a long story short, before stopping we had operated for the fistula and removed the hemorrhoids. After that I began to use it frequently for hemorrhoidal operations. I believe it is the coming method of anesthesia. Aside from the cost, I think it is the method of choice, and

I hope the time will come when it will not cost so much.

Emmet F. Horine, (Closing): With children I usually make it a rule to give ether, not so much because the immediate effects are better, but from the standpoint of the after-effects. Acidosis often follows chloroform anesthesia in children, for that reason, even in tonsil operations I use ether, by the vapor method.

With reference to preliminary medication, I think morphine is particularly indicated as a preliminary to nitrous-oxid-oxygen anesthesia, because it helps to secure muscular relaxation. Therefore, before giving nitrous oxid and oxygen, I always administer 1-6 to 1-8 grain of morphin and 1-100 grain, or less, of atropin.

I always try to see the patients before operation, although this is not possible in every case. In goiter cases I always see the patient at least a day or two before the operation, and at that time I examine the heart and lungs, take the blood-pressure, et cetera.

With reference to intravenous anesthesia, one point seems to have been unnoticed; namely, that it should be administered drop by drop, and it is this that enables it to be controlled. A 5 per cent. solution of ether is made up with normal saline, the vein exposed, a canula introduced, and the solution allowed to flow in slowly, drop by drop. By this method the anesthesia is under perfect control and within from one to six minutes the patient is fully anesthetized.

Rectal anesthesia by ether alone has been proven to be very dangerous, as indicated in the case reported by Dr. Sherrill. Proctitis and colitis may develop and be followed by considerable trouble. Gwathmey uses an ether-oil mixture and reports satisfactory results. In anesthesia, the psychic element should be considered, and the anesthetist should endeavor to gain the full confidence of the patient.

I wish to thank the gentlemen for their discussion.

Effect of Lesions on Hepatic Function.—Oxygenation of the perfusing fluid by pure oxygen instead of air renders more complete the reduction of the ammonia content of the fluid as it passes through the liver. Fiske and Karsner found no difference between normal livers and livers poisoned with the various toxic substances mentioned with respect to their ability to lower the ammonia content of the blood perfused through them.

EPISTAXIS.

By W. D. LEVI, Louisville.

Nose bleeding may prolong life or quickly terminate it. It may be a salutatory or a very grave event. It may be entirely insignificant as an indicator of the patient's general health or the dramatic symptom which leads to a diagnosis of organic disease or the crimson herald of an apoplexy.

ETIOLOGY.

The causes of epistaxis are local and constitutional. Among the endo-nasal causes are accidental and surgical trauma; foreign bodies; diseased conditions of the mucous membrane, chiefly hypertrophic rhinitis and rhinitis sicca; syphilitic, tubercular and malignant ulcers, varicose and aneurysmal vessels at Kieselbach's area of septum; angioma, fibroma and adenoids.

The constitutional causes are legion. Under diseases of the blood are plethora, the anemias, haemophilia, leucemia, scurvy, purpura and certain blood conditions brought about by typhoid, influenza, pneumonia, acute rheumatism, diphtheria and some of the eruptive fevers.

Practically all the diseases of the blood vessels are either predisposing or exciting causes of nasal hemorrhage.

The diseases of great importance associated with increased arterial tension and obstruction to the return of blood to the heart, are sclerosed arteries, cirrhosis of liver and kidneys, tricuspid regurgitation, mitral stenosis, aortic regurgitation, bronchitis, emphysema and large bronchioles.

It would perhaps seem careless to omit vicarious menstruation, vicarious hemorrhoidal bleeding, airship riding and cannonading.

To return to the sensible, the writer feels that this little paper will not be in vain if it elicit a practical discussion of high blood pressure, so that hereafter we may have a consensus of opinion to guide us in our treatment of epistaxis and make us safer in our treatment of this type of case.

PATHOLOGY.

The pathology in its minutiae is not of general interest. Enough to say that in the majority of cases, blood can be seen pulsing at the point of predilection which point is half an inch back from the anterior end of the septum and very close to the floor of the nose.

Professor Chiari, of Vienna, teaches that about eighty-five per cent. of cases occur from superficial erosions of the mucous membrane. The erosions are almost invariably found either at the site of predilection or the anterior end of inferior turbinal.

As this area can be inspected by simply

pulling the wing of the nose back with the finger, one can readily see that the site is very accessible to treatment.

In those comparatively rare cases of fracture of the nasal septum and those yet rarer cases of fracture of the cribiform plate, the mucous membrane is of course extensively lacerated and the tear is very difficult to find as blood simply gushes from the nose.

TREATMENT.

In interval cases the blood vessels at the site of predilection should be obliterated by cauterization under cocaine with galvanocautery, trichloroacetic or chromic acid.

During attacks, if there is any doubt about the blood pressure being high, do nothing but watchful waiting until a physician expert in the technique and interpretation of the sphygmomanometer, says to interfere.

Epistaxis is one of nature's ways of announcing and, if not interfered with, of preventing an apoplexy. In a few of these cases the hemorrhage seems intractable but in the vast majority of them cessation is spontaneous, first because the more blood lost the greater is the tendency to clotting, and secondly when syncope results bleeding stops. There is a conservative middle ground between syncope and interfering while blood pressure is still too high.

In traumatic cases with lacerated mucous membrane anterior lampus should be packed tightly over the bleeding point, direct pressure being the desideratum. Only in fractures of the base of the skull and some rare cases of secondary hemorrhage after operations in the naso-pharynx is a posterior, so-called Belocqsche, tampon required. Dozert Fein in his *Rhinologische Winke* says, "The rhinologist who uses the Belocqsche tamponade often, gives himself a bad testimonial," and goes on to say that the anterior tampon, if skillfully applied, will quiet any hemorrhage, except haemophilic, which spring from the nasal cavity proper.

Likewise, most of the English authorities at present deery the use of the posterior tampon except in such rare cases that many of them have never used it. They contend that it is superfluous, injurious, painful and often dangerous having produced septic pharyngitis, purulent otitis and meningitis.

The vast majority of cases of epistaxis require little treatment. Many of them can and do get along without any treatment, and too much stress should not be laid on this or that styptic or manipulation since, as we well know, the condition is usually self-limited.

There are several things to do when called to treat a brisk case of nose bleeding. First get the psychology right, by assuring the patient that the bleeding can be readily con-

trolled. Posture is of the greatest importance. Set the patient upright with or without support and drop the head forward slightly so that the blood will flow forward and not down the throat. This very simple thing will stop coughing, choking and swallowing movements which are often the sole cause of the continuation of the hemorrhage. Loosen tight clothes.

Firm pressure over the wings of the nose will check most cases in ten minutes. Place cold things to the nape of the neck and put the feet in hot water. Do not let the patient talk or make any motions. His job is to keep perfectly quiet and breathe deeply and in measure. Cold drinks can be administered.

Sneezing is a troublesome complication. If it cannot be stopped by pressure over well known points, give morphine hypodermatically.

If bleeding resists this simple treatment, insert a cotton or gauze pledget saturated with dioxygen or adrenalin in the anterior part of nasal cavity and press the alae gently. If the hemorrhage then seems incorrigible pack the entire nasal cavity tightly with tampons, either of gauze, tape or cotton wool. We are very fond of strips of gauze wet with adrenalin, although saline would do just as well perhaps.

Calcium chloride, ergot, morphine and some of the newer drugs can be administered internally. Horse serum is very efficacious. There are a few don't's which I have found of value. Don't use peroxide of iron in the nose as it produces tissue necrosis and makes a kind of sticky black sand which makes removal of dressing very painful and may start the whole performance over again.

Don't use posterior tampons except as a dernier resort and then with the full knowledge of the damage it may do.

Don't spray or let the patient sniff indifferent lotions as that method is purposeless and may wash away the clot. Never allow the tampons to remain in longer than twenty-four hours as they soon become septic.

Don't forget that nose bleeding may be a symptom and should be treated as such until that possibility is eliminated by careful examination.

Some Anaphylactic Reactions.—Guinea-pigs sensitized to beef or dog hemoglobin fail to react, or react but slightly, to hemoglobin of other origins. The hemoglobins tried were dog, beef, cat, rabbit, rat, turtle, pig, horse, calf, goat, sheep, pigeon, chicken and man. The authors conclude that hemoglobins from different sources are chemically different. A low order of sensitization to isogenous proteins is found in guinea-pigs injected with guinea-pig tissue-proteins.

CLINICAL CASES

A CASE OF DIPHTHERIA WITH RECURRENCE AND FATAL TERMINATION.

By VIRGIL E. SIMPSON, Louisville.

Case, V. C., female, age 11.

Family History: Father was an alcoholic habitue of a periodic type until past 7 years during which time he has been a total abstainer. Mother had had no serious illness though never of vigorous health. A paternal uncle died of tuberculosis and a female cousin developed the same disease 12 years ago and is now living in California enjoying an arrested condition.

Personal History: Patient was an only child and while indulged and of a nervous type was unusually unspoiled and free from wilfulness. Had had rubella, pertussis and varicella with satisfactory recovery. The tonsils were chronically enlarged and had suffered repeated attacks of acute follicular tonsillitis. Adenoids had been present to our knowledge for 7 years. The parents, after repeated advice and insistence, consented to their removal which was done by Dr. G. C. Hall during the autumn of 1913. The tonsils were not removed. The palate was markedly arched and the teeth in decidedly defective alignment. Steps for correction of this deformity were inaugurated during the winter of 1913. The patient was of slender build and above average mentality.

Present Illness: Developed on January 7th, 1914, with sore throat, headache and other manifestations which convinced the mother that an ordinary attack of tonsillitis was in progress. She was kept out of school the following day which was spent partly in bed, and remained absolutely in bed through the 9th. On the 10th the mother observed patches on the tonsils and we were called.

Examination: The child gave every appearance of being quite ill. Some difficulty in deglutition, marked cervical adenitis, temperature 104, pulse 120, tongue foul, unpleasant odor to breath, and a distinct membrane completely covering both tonsils and right side of uvula. A clinical diagnosis of diphtheria was made and a culture media inoculated at bedside, which developed almost pure growth of diphtheria bacilli in sixteen hours.

Treatment and Progress: Seven thousand five hundred units of antitoxin were given before leaving the house, a purgative ordered and absolute rest enjoined. Improvement not entirely satisfactory and on the following day, 11th, 5000 units additional were given.

The membrane disappeared completely by the 14th though the tonsils remained swollen considerably. The condition progressed fairly satisfactorily until January 28th, when a second culture was grown and no diphtheria bacilli found. The quarantine was raised at our request and home fumigated February 1st. Return of strength was slow during convalescence, though a hematonic was given and the appetite was moderately good. On February 19th, we were again called and found a temperature of 101, pulse 130, and what appeared to be a typical follicular tonsillitis presented on examination of the throat. The following day a distinct membrane was present and a bacteriological examination demonstrated diphtheria bacilli. The repetition of antitoxin, after the interval following the first attack, presented a problem of moment and Dr. Tuley was called in consultation. Three thousand units of antitoxin were given and repeated on the following day, February 21st. The prostration from the second attack was extreme and marked in coordination of the muscles of the upper extremities was observed. Pharyngeal paralysis appeared. By the 23rd of February the throat was apparently better, but the general symptoms grew worse. February 25th, a pulmonary edema developed about 6 P. M., and death occurred in three hours.

CONCLUSIONS.

There are several points of interest in connection with this case. One of the most important is the differentiation between what might be termed a relapse or a reerudescence of an attack of diphtheria, and what is really a second attack. It would appear, at first blush, that a negative finding upon a bacteriological examination of the throat would determine that a given case of diphtheria was well, and that any subsequent attack, occurring within four weeks, or six weeks or six months from that time, might properly be called a second attack. It must be borne in mind, however, that, notwithstanding a negative bacteriological finding, the diphtheria bacilli may still be present, although undemonstrable at that time. The method of determining a reerudescence or a second attack of diphtheria which seems to have been accepted by the majority of hospitals and clinics throughout the world, is this: If an individual suffering from diphtheria is dismissed from the hospitals or clinic as having recovered from the trouble, and another attack develops, that is considered a second attack; whereas, if the disease subsides and apparent recovery takes place, with a second involvement later, that is considered a reerudescence or a relapse. The custom that has obtained in private practice, and in connection with sta-

tistical work, is that when a case of diphtheria which has apparently recovered, as indicated by notification of the health authorities and the raising of the quarantine (which is equivalent to dismissal from the hospital), and develops another attack of diphtheria within three or four weeks, it is termed a reerudescence, while if a longer period intervenes it is called a second attack.

In this case I am satisfied that diphtheria bacilli were still present in the blood, although the findings upon bacteriological examination of the blood, were negative, and that the second attack was, therefore, merely a reerudescence of the original condition.

Upon looking up statistics as to the number of recurrences in diphtheria, I was surprised to find that, in Ralston's series of three thousand cases, he had observed 1.3 per cent. of recurrences, and that second attacks had occurred in only 2.4 per cent. of the cases.

Another interesting point in connection with these statistics, was the surprisingly few cases in which, after an individual had been discharged from the hospital and sent home as cured, other members of the same family developed the disease and came to that hospital for treatment, showing that the danger of carrying the disease home by an individual who has been discharged as cured, is rather remote.

Another interesting feature about this particular case was the fact that paralysis occurred during the second attack. Statistics show, however, that in the majority of cases reported where paralysis occurred at all, it developed during or following the second attack.

DISCUSSION:

Asa W. Nickell: Recurrences in diphtheria, while more frequent than in measles and scarlet fever, are relatively rare, as evidenced by the statistics quoted by Dr. Simpson, which I believe are largely substantiated by O'Dwyer, W. H. Park, the American Pediatric Society, etc. However, he did not get rid of the infection in this particular case. The nose and throat may have shown no pathology upon macroscopical examination, and microscopic examination of the secretion may have disclosed no bacilli, yet they were evidently in the tonsillar crypts, or perhaps in some carious teeth, or there were some foci in the rhino-pharynx. Larger doses of antitoxin at the time may have given different results.

Just a word in regard to the prognosis in diphtheria, which is a very important question, because we are so often confronted by parents who are so vitally interested in the probable outcome of these unfortunate cases. A comparison of many of the statistical tables shows that the highest mortality from this disease occurs in children under the age of two years, owing to the

fact that the mucous membrane forms almost entirely in the larynx and lower air passages, and that the complication of bronchial pneumonia, both with and without membrane in the larynx and trachea, so often occurs. In children from two to five years of age the mortality is only two-thirds of that under the age of two years; from five to ten years, one-half, and from ten to fifteen years, one-fifth of that under two years of age.

I am very glad to have heard this report.

Edward Speidel: I would like to ask Dr. Simpson what is the consensus of opinion at the present time as to the value of a prophylactic dose of antitoxin? If an individual who has received three or four thousand units of anti-toxin which we usually inject as a prophylactic dose, would be of very little value.

Jethra Hancock: I would like to ask Dr. Simpson how the mortality of recurrences or second attacks of diphtheria compares with that from primary attacks of that disease.

W. C. Dugan: I would like to ask Dr. Simpson how he accounts for the oedema of the lungs in his case?

Virgil E. Simpson, (Closing): I think it is generally accepted that the mortality from recurrences or second attacks of any acute infectious disease is greater than from initial attacks. This is true in diphtheria as it is in typhoid fever, pneumonia, and other infectious diseases. I believe statistics will bear out this statement.

In regard to the value of diphtheria antitoxin as a prophylactic, it must be borne in mind that infectious diseases of all kinds behave differently in different individuals, and that the production of immune bodies, whether by the progress of the disease itself, or artificially, by the injection of vaccine or of antitoxins varies materially. In typhoid fever we can establish an artificial immunity which will continue for approximately the same length of time as an immunity established by an attack of the disease, reckoned as about three years. In other transmissible diseases such as small-pox, measles, etc., an attack confers an immunity lasting practically the entire life of the individual. I have seen but one case (an adult, thirty years old) of a second attack of scarlet fever. In diphtheria, the immunity established either by an attack of the disease itself, or artificially, by the injection of anti-toxin, is comparatively short-lived, lasting only three months. It would appear, therefore, that second attacks of diphtheria would be very frequent, but the comparatively few instances of this in the series of cases referred to is surprising, and would lead to the supposition that the immunity conferred may be much more lasting than we now believe.

In regard to the pulmonary oedema in this case, I believe that it resulted from the same conditions which ordinarily give rise to this trouble; in other words, that there is paresis of the

vasomotor nervous system, with a sudden letting-go of the blood vessels in the pulmonary structures, due to the toxemia which exists, the blood supply of the lungs being, anatomically speaking, very susceptible to such influences, there being no muscular structures to support the blood vessels. This explanation holds good here as well as in oedema of the lungs in other conditions.

A CASE FOR DIAGNOSIS.

By J. B. LUKINS, Louisville.

Mr. F. J., age 46.

Family History: Father was tuberculous and died of pneumonia at the age of 45. Mother living and in good health. One brother and one sister both living and in good health.

Personal History: No previous illness except mumps in 1912, when he lost about 30 pounds of flesh. This was regained and usual weight of 215 pounds attained. Has been working constantly as a proof reader for 32 years, has never taken a real rest or vacation. Never did use tobacco or alcohol.

Seemed to be in good health until 10 weeks previous to the time I saw him, April 27, 1914. When his wife began to notice a gradual decline in flesh and strength. She believes that during this time he has a slight elevation of temperature. He continued at his work until about April 12th, when one morning about twenty minutes after rising while standing on the floor he suddenly gasped and putting his hands to his head, sank to the floor. This was followed by a slight nose bleed and a short period of unconsciousness lasting about five minutes.

During the following two weeks he remained in bed most of the time, had no appetite, never complained of anything except weakness, had morning temperature of 99 to 100 afternoon temperature of 101 to 101.5.

When first seen by me his general appearance was good, defect in speech, which he said was congenital, this was a stammer and with each attempt to speak a word would strike the chest with the left hand. Had no vision in left eye except light perception. Was very indifferent to surroundings and showed a disposition to evade my questions. Could not get the slightest intimation that he had or ever had any kind of pain, anywhere.

Color, slightly pale; muscles very flabby and weak, pupil reaction somewhat sluggish. Examination revealed normal lungs, normal size of liver, mitral regurgitation of heart, abdomen soft, and flabby with no distention and no soreness. No oedema or swelling in any part of the body, no dyspnoea, no cough, tongue dry, brown and furrowed.

At 9 A. M., temperature 100, pulse 86, respiration 20.

At 4 P. M., temperature 102, pulse 90, respiration 20.

Blood pressure 128.

Chemical examination of the urine showed no albumen, no sugar, specific gravity 1030 acid reaction.

On April 28, morning temperature was 100 afternoon temperature 102 2-5. Did not sleep more than an hour all night. Patient was given a nerve sedative, small doses of digitalis and calomel, followed by daily doses of magnesia sulphate.

Condition remained about the same, afternoon temperature frequently reaching 103, morning temperature never being less than 100 until May 6, when the temperature fell to 97 and pulse increased to 105. Marked pallor and extreme weakness accompanied this decline in temperature, which lasted for about 24 hours. afternoon temperature was only 98, but following morning again showed 99 3-5.

About this time it was noticed that the amount of urine passed in 24 hours was decreasing, another specimen was examined showing a specific gravity of 1020, highly colored, no sugar, albumen present.

Blood pressure 100.

May 8, two vials of blood and a specimen of urine were sent to the Louisville Research Laboratory, and the following reports received:

EXAMINATION OF BLOOD

White cells, 13,200; lymphocytes increased; mononuclears, 18; transitionals, 2; neutrophils, 78; eosinophiles, none; basophiles, 1; myelocytes, 1. Parasites, bacteria, none. Widal test negative.

Remarks: Slight leucocytosis, will report on Wasserman to-morrow.

Wasserman reaction negative.

L. R. LABORATORY,

J. D. ALLEN.

URINALYSIS

Color (Vogel's scale) amber; transparency, cloudy; albumen, serum, abdt; nucleo, abdt; reaction acid; specific gravity, 1030; mucin, abdt.; urea, 1.8 per cent.; sugar, none; Uric acid, present; indican, abdt.; sulphates, increased; bile, none; chlorides, diminished; phosphates, increased; acetone, none; total solids, 66 gms. 1000 c.c.; HH^3 Nitrogen, 6 per cent; Diazo reaction, none.

Microscopical: Cells: Cystic, few; renal, few round cells; pus, few; blood, few; miscellaneous sq. cells. Casts: Hyaline, numerous; granular, numerous; pus, few; blood, few; epithelial, few pieces. Cylindroids, numer-

ous; shreds, mucus, crystals, uric acid, abdt.; amorphous salts, urates.

L. R. LABORATORY,

J. D. ALLEN.

From May 7th to 10th, patient was slightly improved, slept well at night, took more nourishment and showed some interest in surroundings, on May 9th nose bled twice. On May 9th and 10th complained of severe pain in calf of left leg, amount of urine passed in 24 hours was daily decreasing until total was only 15 ounces. On May 12th and 13th, hot wet packs were given with only slight beneficial results. Dr. H. E. Tuley saw the case in consultation in the night of May 12th.

Patient's mental condition had been dull and listless all along but on May 13th was slightly delirious for the first time.

On May 14th, was still flighty, vomited some and had slight nose bleed.

During this week temperature ran slightly lower, A. M., 99 3-5 to 100, P. M., 100 2-5 to 101 2-5, pulse from 95 to 116. On May 14th was given a combination of sodium chloride and sodium carbonate as recommended by Dr. Fisher, of Cincinnati, as a diuretic in oedema of the kidneys. In 48 hours the amount of urine increased from 15 ounces to 45 ounces. On May 16th urine was again examined and found to contain albumen, granular and hyaline casts, blood and a few pus cells.

Blood pressure 118.

From May 14 to 20 patient became more delirious and restless. May 18th considerable twitching of facial muscles.

On May 18th examination revealed some abdominal ascites, bulging of chest wall over cardiac area and one blowing sound of heart. From this time on temperature ranged from 102 A. M. 103 to 104 P. M., pulse 112 to 120. Unconscious more than half the time. Urine normal in amount and heavy bloody color has disappeared, slight amount of albumen.

On May 21st respiration became labored, bowels and kidneys acted involuntarily. Nose bleed daily.

Patient gradually became weaker, temperature remained high, pulse got more rapid and he sank to a peaceful end on May 26th, at 3 P. M.

DISCUSSION.

E. S. Allen: This is a very interesting case, and I am sorry that I cannot help the doctor out in regard to the diagnosis. I am confident that, at the last, the patient had a nephritis. The history in the beginning makes it look very much as if he had a hemorrhage, followed by cerebral oedema. I cannot account for his early leucocytosis, which would appear to indicate that he might have had an abscess somewhere. The onset of the symptoms and the hemorrhage from the nose would seem to indicate that he had a sud-

den increase of intracranial tension, which would necessarily bring about peripheral tension, the vasomotors being stimulated in trying to overcome the ensuing anemia in the medulla, but the blood pressure was too low to show any increased tension, and he lasted too long for the low peripheral tension to have been caused by strangulation of the vasomotor centers in the medulla.

John B. Richardson, Jr.: From the history of the case as related by Dr. Lukins, I believe this man died of a chronic interstitial nephritis, with oedema of the brain.

The more I use the blood pressure apparatus, the less confidence I have in it. If this patient had an interstitial nephritis, it does not necessarily follow that his blood pressure would be increased. I have seen patients die from oedema of the brain without the blood pressure going over 120. During the past week Dr. Zimmerman lost a man who had marked intracranial hemorrhage, and yet the blood pressure was never over 130.

The history of Dr. Lukins' case from start to finish, with the exception of the leucocytosis, for which I cannot account is that of an interstitial nephritis with oedema of the brain.

C. H. Harris: The history recited by Dr. Lukins almost exactly corresponds with that of a case of myocarditis which came under my observation. This patient had sudden terrific pain in the chest, which was so severe that he was constantly pounding himself in the chest, attended by a constantly decreasing blood pressure. His urine upon examination was characteristic of a parenchymatous nephritis rather than an interstitial nephritis.

W. C. Dugan: I was talking with Dr. Lukins about this case at the Norton Infirmary the other day, and I was waiting to see if anyone was going to bring out the point made by Dr. Harris. I agree with him that it looks more like a cardiac condition, and I believe this man had vegetation in the cardiac valves which was swept off and carried to the brain, causing the sudden pain that he had. I believe it was primarily a case of septic myocarditis, or else an endocarditis with myocardial trouble.

John B. Richardson Jr.: I would like to add that I believe all cases of parenchymatous nephritis originally had an interstitial nephritis, which gives rise to cerebral oedema much more frequently than the former. I do not mean to be understood as saying that this man, later on, did not have a condition other than interstitial nephritis, but I do believe that this was the primary condition. The doctor did not make microscopic analysis of the first two or three specimens of urine, but when he made them later he found kidney debris in the urine. Possibly if he had made microscopic urinalysis earlier, he would have found evidence of an interstitial nephritis.

W. C. Dugan: How would you account for the

sudden onset of pain, which caused him to throw his hands to his head?

John B. Richardson, Jr.: I do not know that I can explain it. Such conditions often arise suddenly. A man may be perfectly well and have acute oedema of the brain followed by paraplegia.

C. H. Harris: I cannot get away from the idea that the primary cause of this man's trouble was an acute myocarditis. The urinary findings were negative in the beginning, and the blood pressure decreased to 100, which is characteristic of myocardial trouble, and then the urine shows evidence of a parenchymatous nephritis. The only thing lacking to make it complete is a history of capillary stasis.

S. C. Frankel: I agree with Dr. Dugan that the primary trouble in this case was a myocardial condition, with vegetation which got loose into the circulation and lodged in the brain. Dr. Lukins stated that the patient showed no positive symptoms of myocardial trouble—no cough, dyspnea or other cardiac symptoms. However, in view of the low blood pressure, it would appear that this man had an infarct into the brain and later on another one into the kidney. The leucocytosis could only be accounted for by a septic condition somewhere.

Albro L. Parsons: I would like to speak to just one point. The question of typhoid fever arose in connection with this case. I understood the doctor to say that a Widal test was made about a week after the patient was taken sick. In ninety-seven cases out of a hundred, the Widal test, made after the eighth day, will give a correct diagnosis. Therefore I do not believe the trouble in this case could have been typhoid fever.

In view of the results noted by a Boston physician recently in a series of three thousand post-mortems, I think anyone would be rather bold in venturing to say what was the matter with this man. Cabot, of Boston, in the series of post-mortems just mentioned, demonstrated that seventy-five per cent. of all diagnoses were erroneous, the condition being either overlooked entirely, wrongly diagnosed, or only partially diagnosed. Without a post-mortem I do not see how anybody can tell what was the matter with Dr. Lukins' patient.

J. B. Lukins, (Closing): I would be glad to hear every one present express their views on this case. To me it was one of the most interesting cases I have ever seen, but even now I could not say positively what killed this patient. Every clue that I started upon and worked out, such as, for instance, nephritis, myocarditis, typhoid fever, had to be abandoned.

I agree with Dr. Richardson that the man had some kidney condition for about two years before I saw him. Whether or not it was an interstitial nephritis, I cannot say. We do not find the spe-

eife gravity of the urine in interstitial nephritis that was present in this case.

As to typhoid fever, a glance at the man as he walked across the room would have ruled that out. His abdomen was soft and flabby, and he got up out of bed one day while at his very worst, and shaved himself. I really did not need the Widal test to prove to me that it was not typhoid, but simply because I had the blood there the test was made. This was the tenth day of the disease and, as pointed out in the discussion, it would have been positive at that time.

Answering Dr. Allen's question about eserine, it was given by the rectum and by the mouth. The output of urine following the administration of eserine was remarkable; further than that it did absolutely no good.

I believe this man died of oedema of the brain. Whether it was secondary to a kidney condition or not, I cannot say. Towards the last he had considerable cardiac disturbance, evidenced by increased dullness and bulging of the cardiac area; no dyspnea, cough or pain. Every case of cardiac trouble that I have seen has had pain in the region of the heart. The only pain he had was in the calf of the left leg, coming on very acute one night and lasting about forty-eight hours. Dr. Dugan intimated to me that he thought that was cerebral or secondary to the heart.

The indifference of this man was remarkable; he simply wanted to be let alone. I believe he had a slight cerebral hemorrhage on the morning he got out of bed and fell on the floor. I did not see him for twelve days after that; he had no doctor, but simply staid in bed and rested. Whatever symptoms followed that cerebral hemorrhage had almost cleared up when I saw him.

C. H. Harris: Was there any history of any condition in this man's life that would predispose to cardiac valvular trouble?

J. B. Lukins: Nothing at all; he had never had tonsillitis or rheumatism and, in fact, had never taken a dose of medicine in his life. He worked for thirty-two years at proof-reading. There was no tumor and no lack of compensation in any part of the body.

It was also suggested during the course of the disease, that the trouble was due to an acute infection of the kidney, but the ensuing history of the case did not bear that out. The leucocytosis must be explained as coming from the heart and not from the kidney. I cannot believe that this man had an abscess of the kidney, or a pyelitis, or anything in the kidney that would produce a leucocytosis.

SOME INTERESTING APPENDICES.

By C. B. SPALDING, Louisville.

Quite frequently, when called upon for case reports, we are inclined, and naturally so, to report rare and peculiar cases and conditions that come under our observation; which is unquestionably an excellent idea; that all may benefit by the unusual experience of one; however an occasional review of some of the every day varieties of pathology, in their various forms and conditions seems at least worth while, if by such a review, an expression along the line of clinical diagnosis and surgical technique, may be elicited from the internists and operators present.

Our study of anatomy and embryology give us some very definite and final information which is well worth bearing in mind constantly. The appendix has a definite attachment, of beginning, no matter what the position of the caecum; it may always be found on the caecum beginning with the end of the longitudinal bands. It may or may not have a mesentery, or it may have a mesentery in only part of its course. Further, the caecum's range of position is quite extensive, it being found anywhere in the right half of the cavity, occasionally in the left half, as well as occupying any abnormal communicating cavity. At about the twelfth week of the embryo's life it is found under the liver in the left side, from where it crosses over the descending duodenum to a position under the liver on the right side, then on down to the iliac fossa, at or about the time of birth, any cessation in descent resulting in a high or lumbar caecum, and any exaggerated descent giving rise to pelvic appendices, and other unusual positions. Again no matter what the pathology the caecum always has the longitudinal bands, the small gut never has; the caecum always has a junction with the ileum, and does not normally connect with the omentum, which always comes off of the transverse colon. The appendiceal lymph gland connects with the glands about the liver and gall bladder and also the right ovary.

These simple points in anatomy, familiar though they may be to all of us, are absolutely essential if we expect to locate rapidly and without hesitation and treat with an appendix, through the usually comparatively small abdominal incision.

The first group of cases are reported, wishing to especially call your attention to the treatment of near abscess, abscess, and general infection cases; in appendices situated at about the usual site, with emphasis on drainage and wall care.

Case 1. O. H., white, male, aged 29, weight 130, height 5 feet 7 inches, referred

by Dr. Muster, November 24, 1913. Family history negative. Personal history not very definite, but says that he has had several attacks of pain in the right side during the past 18 months, accompanied by severe and more or less constant backache and pain down the right leg, so severe that he could scarcely work. No acute attack for the past two weeks. General condition shows a thin muscular man with a very thin abdomen. Pulse normal, temperature normal, urine normal. Severe pain on palpation deep in appendical area. On November 24, 1913, at St. Joseph's Infirmary, under gas-ether anesthesia, and through a grid-iron incision, a badly inflamed and thickened appendix, adherent to the posterior parietal peritoneum, showing every evidence of long and continuous inflammatory action, was removed. Recovery from local and general symptoms rapid and complete.

Case 2. A. W., white, male, aged 15, weight 120, height 5 feet 7 inches, referred by Dr. Lyons, June 11, 1912. Family history negative, personal history shows that this was his first attack, came on that day following eating a quantity of ice cream and nuts. General condition good, pulse 90, temperature 99 1-2, urine normal. Local condition shows acute tenderness and rigidity over a mass low down on the right side, near the crest of the ilium. The same evening, through a low grid-iron incision I was able to remove a large gangrenous appendix greatly enlarged and distended and plastered about with thick coagulated lymph. Cavity full of serum, caecum thick from contact inflammatory processes. Cigarette drain was used. Recovery uneventful.

Case 3. Mr. D., male, white, aged 40, weight 190, height 5 feet 8 inches, referred by Dr. Lederman, March 25, 1913. Negative family history, personal history shows one previous attack, pain in right side, but history not definite. Has had some bladder irritation at intervals. General condition showed pulse 80, temperature 99 1-2, urine normal. Great pain in right side and frequent vomiting. Local condition; large, fat abdomen very acutely sensitive at McBurney's point, and quite rigid. Operation that night at Norton Infirmary, through grid-iron incision, under gas-ether anesthesia, revealed a distended gangrenous retro-caecal appendix, which ruptured during removal, pus was very foul smelling, one large concretion near the tip. Tube and gauze strip used for drainage, quite a little infection and sloughing of structures in contact with drain. Recovery rapid and satisfactory.

Case 4. R. S., age 16, female, white, weight 110, height 5 feet 3 inches, referred by Dr. Katzman, May 22, 1914. Family history nega-

ive, personal history shows one attack of appendicitis, one year ago. Present attack came on very rapidly, seen first by Dr. Katzman at four o'clock, operation at eight. General condition; pulse 100, temperature 100, urine normal. Local condition, shows extreme tenderness and rigidity at McBurney's point. At St. Mary and Elizabeth under gas-ether anesthetic and through a right rectus incision a gangrenous adherent appendix was found. Appendix was full of mushy fecal matter, densely adherent to adjoining gut and gangrenous to the extent that it ruptured during removal. A cigarette drain and small tube were used. Recovery uninterrupted.

Case 5. C. K., white, male, aged 18, weight 150, height 5 feet 6 inches, referred by Dr. Pectol on January 15, 1914. Family history negative. Personal history shows that his attack began six days previously and that he has suffered great pain in right abdomen, run a fever, and had vomited often. Family held off operation. General condition, pulse 90, temperature 101, urine normal. Local condition, large mass on right side below McBurney's point, very rigid and sensitive. On January 15, 1914, at St. Joseph's Infirmary, under gas-ether anesthetic through a right rectus incision a large appendical abscess with gangrenous appendix was found. This was walled off and drained and appendix removed. Rubber tube and cigarette drain used. Convalescence uninterrupted.

Case 6. Mr. K., male, white, aged 45, weight 160, height 5 feet 8 inches, referred by Dr. Pectol, April 13, 1914. Family history negative except that son was operated on for same condition two months previous. Personal history showed that he had one attack of supposed appendicitis one year previous. Present attack started two or three days previous to consultation, during which time opiates were given. The patient resisting vigorously the idea of surgery. General condition, pulse 90, temperature 102 1-5, vomiting, urine normal. Local examination revealed great rigidity and tenderness in appendical region. On the same day at St. Joseph's Infirmary under gas-ether anesthetic and through a right rectus incision an acutely inflamed ruptured appendix was removed. General peritonitis having already started. Rubber tubes were used for drainage. Convalescence uninterrupted.

Case 7. Mr. K., white, age 22, weight 130, height 5 feet 8 inches, referred by Dr. Katzman, Sept. 8, 1913. Family history negative, personal history showed patient always delicate and nervous. Has had several attacks of pain in appendical region, none severe but has had great trouble with digestion. General examination showed pulse 100, temperature 100, urine normal. Locally, tenderness

and rigidity over McBurney's point. On September 28, 1913, at St. Joseph's Infirmary under gas-ether and through a grid-iron incision an appendix, adherent at the base, congested and slightly distended at the tip was removed. Wound closed. After the third day a slight elevation of temperature continued. Patient complaining of severe pain in liver region, entire right side. Wound healed perfectly. Patient was very sick, severe sweats and every evidence of pus somewhere. On October 9th, twelve days after operation, under gas-oxygen, the loin was opened and lower pole of kidney exposed, but I could not reach the pus, so I drained the incision, feeling sure that pus would come through sooner or later; then made a stab wound incision in the border of the right rectus high up, and ran my finger up towards the area of the upper pole of the kidney and was rewarded with several drams of thick tenacious foul pus. Two rubber tubes were quickly inserted. Hot applications were continued constantly and in 24 to 36 hours there was free drainage, both from the loin incision and rectus incision, and the patient recovered nicely. The primary appendix incision never had a drop of pus in it. I take it that this was a sub-phrenic abscess originating from the appendix and starting before the appendix was removed.

In these cases both the grid-iron and rectus incisions have been employed according to the individual case, and no muscle fibre has been cut, and there are no resultant hernias.

In the next three cases I wish to demonstrate some of the types of retro-peritoneal appendices, and the method of treating with them.

Case 8. Miss B., aged 20, white, weight 130, height 5 feet 6 inches, referred by Dr. Hamilton, October 21, 1912. Family history shows one brother operated on for appendicitis, one sister for gall stones. Personal history shows two attacks of pain in appendiceal region, one two months previous, and one two weeks previous, to the present condition. Constant soreness in that area. Present condition, pulse 100, temperature 99, urine normal, local examination showed no distension, slight rigidity, severe pain on deep pressure over McBurney's point. Operation at St. Joseph's Infirmary under ether, October 22, 1912, through a grid-iron incision, revealed an appendix entirely retro-peritoneal except the tip of the extremity. Base was amputated first, then appendix freed from overlying peritoneum. No drainage, recovery uninterrupted.

Case 9. Dr. A. M., aged 29, white, weight 270, height 6 feet 4 inches, seen on May 22, 1912. Family history negative. Personal

history, shows a diarrhoea following heavy eating, during several years. Frequent pain in left side. This was the first time pain had occurred in right side. Present condition showed pulse 90, temperature 99 3-5, urine normal. Local condition reveals tenderness and rigidity over appendiceal region, with a severe aching pain in that region; nausea and vomiting. On May 23rd, 1912, at St. Joseph's Infirmary under gas-ether and through a grid-iron incision, a very long appendix about 8 or 9 inches in length entirely retro-peritoneal except the extreme tip, which was greatly distended, was removed. Caecum was held down by Lanes bands, making delivery of caecum impossible until they were freed. Abdominal wall extremely fat, about six inches deep and with the tremendous motion of abdominal muscles with breathing, together with the pathology, rendered the operation very difficult. Appendix was amputated at the base then dissected out of its covering. Wound was covered layer by layer overlapping the external oblique, to doubly guard against hernia. At the end of two weeks a quantity of broken down fat escaped from the incision, but this cleared up in two days and there was no interference with muscular union.

Case 10. Miss B., white, aged 37, weight 165, height 5 feet 9 inches, referred by Dr. Hamilton, July 22, 1914. Family history negative, personal history shows a constant so-called indigestion for the past year, with constant loss of weight from 200 pounds. Great distension from gas following eating, and only got relief after use of oil. Severe pain and tenderness in right side over both gall bladder and appendix. Temperature normal, pulse 72, urine normal. Operation through right rectus incision, on July 23, 1914, at St. Joseph's Infirmary, under gas ether and anoci-association, revealed a large mass composed of adhesions between the ascending colon and the transverse colon and plastered with a big mass of fat omentum. This kinking seemed enough to almost cause obstruction. Just below the mass, the ileocecal valve was situated, and the appendix sought. By tracing the longitudinal band to its termination, I was able to locate the base of a very long, entirely extra peritoneal appendix. It was amputated and traced up under the parietal peritoneum almost to the lower pole of the right kidney. It was about 9 inches long, and densely fixed, requiring great care in avoiding ureter, and other extra peritoneal structures. The adhesions of the colon were freed and covered as best I might, then freely anointed with vaseline. There was no trouble about the gall bladder. No drainage was used and recovery was rapid.

The previous severe constipation is relieved, and the patient tells me that even in this short length of time she can eat freely; the old pain, nausea and distension having entirely gone.

This variety of appendicitis, due to its position, covering and blood supply renders it exceedingly tedious of removal, if one preserves the peritoneum and avoids raw areas and subsequent adhesions.

The next cases are reported with especial reference to their low position, their diagnosis and method of handling under different degrees of pathology.

Case 11. Miss S., white, age 20, weight 126, height 5 feet 4 inches, referred by Dr. Crane. Family history negative. Personal history shows three attacks of severe pain in right side radiating from gall bladder area down as low as right ovary. Had been given morphine for supposed gall stones on two occasions by another physician. Examination revealed normal temperature, pulse 72, urine normal. Right side of abdomen very tender, high up as gall bladder and especially, over appendical and right ovarian areas. Patient kept her body flexed to protect that side. Operation July 29, 1912 at Norton Infirmary, under gas-ether anesthetic. Incision through right rectus, revealed a thick inflamed appendix, containing two large concretions, adherent to ileum two inches from valve and also to omentum and right tube and ovary. Caecum thick from long inflammatory process, nothing wrong with gall bladder. Adhesions freed and appendix removed. Recovery uninterrupted. No drain used.

Case 12. Miss W., aged 27, weight 140, height 5 feet 6 inches, was referred to me by Dr. Gossett, October 1, 1913. Family history, father died with tuberculosis, one sister had tubercular peritonitis. Personal history shows that patient had had a pulmonary tuberculosis, which at present seems quiescent. Has had previously two attacks of pain in abdomen. So-called indigestion frequent, present attack began the previous day, but subsided and she started to work, but decided not to go out. Late in the afternoon she called Dr. Gossett, who found no fever, and a pulse of 72, but diagnosed appendicitis. I saw her at 7 P. M., at which time the pulse was normal, temperature 99.1-5, abdomen very tender, especially in ovarian region. Being a virgin, I examined per rectum and was able to locate a very tender area, indicating intra-abdominal inflammation. Prompt operation was advised and at 9 P. M., under gas oxygen anesthetic, at St. Joseph's Infirmary, through a median incision below umbilicus, a greatly distended appendix dipping well down into the pelvis, was removed. It was distended in

two areas, one very thin, so much so that the outline of a stone could be made out. There was no contact inflammation, so I judged that the gangrenous condition was one of obstruction, rather than infection, and being successful in removing it without rupture, I closed the wound without drainage, and the patient made an uneventful recovery. The appendix was strictured in the middle, each end greatly distended and containing a fecal concretion. Patient has since gained quite a little weight suffered no ill effects from anesthesia.

Case 13. J. S., age 14, white, male, weight 125, height 5 feet 9 inches, referred by Dr. Mueller, April 21, 1914. Family history negative. Personal history shows frequent intestinal disorder. This attack began following eating; pain severe, vomiting, no fever, pulse 72. No pain at all over McBurney's point, recti rigid and most of his pain was above the umbilicus. Refused operation at first, but consented late the next day. Incision in right rectus, low down, under gas-ether, revealed a very gangrenous appendix, the extremity of which was well down in the pelvis, and gangrenous omentum agglutinated about it. Appendix was not ruptured, but pelvis was full of serum. It was removed, without rupture, also large piece of omentum was removed, two large rubber tubes were put in pelvis; removed at end of ten days. Recovery uneventful, except severe hemorrhage from wound at end of two weeks.

Case 14. F. P., white, male, aged 25, weight 140, height 6 feet 1 inch, referred to me by Dr. Mueller, June 26, 1913. Came into St. Joseph's Infirmary, walking, about 10 o'clock at night. Family history negative. Personal history shows that he had been seized with a severe pain in abdomen one week before, vomiting off and on throughout the week, pain most severe below umbilicus and on the left side of the median line. He changed physicians, and consulted Dr. Mueller the day I saw him, who brought him directly into the hospital that night, having diagnosed appendicitis. Local examination revealed a large mass, size of a child's head, back of the bladder, and mostly situated to the left side of the median line. It gave the same appearance that a large fibroid gives in the female. The mass was very tender, especially through rectal examination; showed severe bladder symptoms, and necessitated use of catheter. As the mass seemed walled off, we waited until the next morning to operate. Under the gas-ether anesthetic a median incision was made, and the mass walled off from the cavity with gauze, the adherent loops of gut were separated, sufficient for evacuation of a quantity of foul-smelling discharge. My finger dropping into this cavity, could feel the tip of an enlarged appendix, just protruding into

the cavity of the abscess. This was not molested, as I did not care to sacrifice the general cavity and the patient; whose pulse at the time, was 180. A large tube was introduced, and gauze strips left in place. Wound sewed up with cat gut and re-enforced with silkworm gut. Patient rallied rapidly, and at the end of 36 hours, the gauze strips were removed, the patient left the hospital on the 31st day of July, a small sinus remaining; and was advised to come back in a month or so for removal of appendix.

On September 1, 1913, he re-appeared for operation. The small sinus continuing, temperature normal, pulse normal, urine normal, general condition good. On Sept. 2, 1913, at St Joseph's Infirmary, under gas-ether anesthetic, the old scar and sinus was removed, all adherent gut about sinus freed, and a large appendix presented deep in pelvis near median line; this was attacked at base first, and removed with much difficulty as there was little mesentery; the end of the appendix was open and communicated with the sinus. The appendix contained pus and one large fecal concretion. The raw surfaces on the guts were covered as much as possible, then anointed with vaseline and covered with omentum. Small tube and cigarette drain used, which were removed in five days. Cat gut closure, re-enforced with silkworm gut used. Patient left table with pulse 160 and made an uneventful recovery, no hernia resulting.

Case 15. Negro boy, age 18, weight about 110, seen on December 6, 1913, at City Hospital. Admitted one week previously to medical ward. Was stumbled upon accidentally. I happened to be in the surgical ward at midnight visiting another case, when the interne, Dr. Daugherty, called my attention to a boy whom he said was suffering terribly and they could not relieve him. I found the boy in profound shock and suffering severely, though opiates had been administered. Abdomen was quite rigid and tenderness general, temperature 102, pulse very rapid. Peritonitis was diagnosed and little hope offered, though drainage advised as the only chance. Operation was performed immediately, under ether anesthetic, and consisted of drainage through right rectus incision below the umbilicus. Cavity was found full of fluid, intestines almost gangrenous, and on lifting up a loop of gut low down, and opened up what had been a walled off abscess from a ruptured appendix, and about one-half gallon of thick yellow pus escaped from the pelvis, also one large fecal concretion. Drainage was instituted. Patient in bad shape and died in 24 hours, never rallying from the shock. I take it that this was an appendiceal abscess, located in the pelvis, which subsequently had leaked

into the general cavity, causing the general peritonitis and death.

Case 16. B. H., negro, aged 49, male, weight 161, height 5 feet 11 1-2 inches., seen at City Hospital November 5, 1912. Family history negative. Personal history shows that ten years previously he received a rupture in a railroad wreck. Wore truss for eight years. A mule threw him just before entering the hospital and his hernia could not be reduced. Temperature 95, respiration 34, pulse 110, urine normal. Local examination showed mass size of one's fist in right inguinal region. Very sensitive and firm. Operation immediately performed, revealed an obstructed right inguinal hernia, containing the caecum, several inches of ileum, and the appendix. Appendix was removed and Bassini herniotomy completed. Anesthetic, gas-ether. Recovery uneventful.

Of interest in this group is the variability of the location of pain, the value of vaginal and rectal palpation, and the extreme location of the appendix.

In conclusion, allow me to emphasize the importance of early diagnosis and the value of a blood count in arriving at a conclusion. Also the importance of proper drainage and wound care, where the case has gone on to suppuration; and also the necessity for preserving the protecting adhesions of an appendiceal abscess, even if a secondary operation is necessary.

DISCUSSION:

E. S. Allen: This is certainly a very interesting series of cases. I think that one of the easiest operations we have to do in abdominal surgery is that for the removal of the appendix, and, under certain circumstances, it may be one of the most difficult, particularly where we find the appendix to be gangrenous, with the surrounding tissues undergoing pathological changes. In such cases we are liable to injure the blood vessels, resulting in thrombosis, or to injure the peritoneum and give rise to an infection, etc., and it takes the greatest of care and a much longer time than ordinarily to remove the appendix without doing the patient very much harm.

As the doctor stated in the beginning of his report, we may find the appendix anywhere. I recall a case in which the history was typical of appendiceal attacks, and upon opening the right rectus, I found the appendix adherent to pus tubes, which were fulminating, with the pain radiating on the other side, and an extra-uterine pregnancy complicating matters.

I think the doctor has very properly laid stress upon the care with which we must deal with a gangrenous appendix, whether ruptured or not, because the fact that it is gangrenous means that there has been leaking-out of the bacteria which have already gotten through the peritoneum, and

we have a mild infection although it is apparently well taken care of by Nature. Therefore, the slightest abrasion in the peritoneum opens up an area for systemic infection. Around an inflammatory appendix, the lymph vessels are occluded by lymph and white blood cells, with which Nature has endeavored to protect herself, and that is the reason why we should be careful in manipulating the appendix.

I agree with Dr. Spalding that where we believe we are dealing with an acute inflammation, which is doing destruction at the time, that we should open the abdomen through the right rectus area, and make a very large incision. We can easily deal with the appendix, as a rule, by making a grid-iron incision, but where we have a gangrenous appendix that has broken down, we want plenty of room so as to enable us to wall off the peritoneal cavity and not injure the peritoneum by the tractors, etc. We need plenty of room to see as well as to feel. I do not believe we should depend upon the finger to run the appendix down to a small opening, especially where there is marked inflammation. We should be able to see every step as we go along, and in that way we can take care of the surrounding structures and reduce the liability to infection.

This report has been very instructive to me and I wish to compliment Dr. Spalding upon it.

Harry J. Phillips: Dr. Spalding's report has been both entertaining and instructive. It seems to me that the most important point in connection with this subject is the diagnosis. Of course, it is an easy matter to make the diagnosis of appendicitis in the presence of pus, but it is not so easy to make the diagnosis in simple catarrhal conditions of the appendix. The vast majority of cases of appendicitis are catarrhal in the beginning. As a matter of fact, we do not often see these rapid cases of appendicitis in general practice. They are the ones that are picked out and make the subject of papers such as we have heard to-night. The general practitioner more frequently sees the cases that come on insiduously and are catarrhal in origin. Quite frequently in my practice I have seen cases in which a mass had already formed, and in which there could be no doubt as to the diagnosis of appendicitis, with the inflammation probably walled off by adhesions, and yet (the patient refusing operation) this mass has disappeared within from five days to a week. In the number of such cases my diagnosis has been confirmed by such surgeons as Dr. Sherrill and Dr. Grant, and they have predicted that these patients would return with another attack in a short time. While I concur in the view that every case of appendicitis is one of danger, yet it has been my experience that some of them will go on to a favorable termination without surgical interference.

After all, the most important thing in appendicitis is to make the diagnosis early, so that, if

an operation is required, it can be done before the patient reaches a critical stage.

Albro L. Parsons: The hour is growing late, but I cannot permit a report like this one to pass without adding my congratulations upon the splendid outcome of these cases. I wish more of the surgeons were here, because by their discussion they might help us to meet these conditions as successfully a Dr. Spalding has.

Two things stand out in this report; first, that Dr. Spalding operated as soon as the diagnosis was made. The old idea that we should wait until the cavity has become walled off to some extent has been exploded. If we were all as good diagnosticians as Dr. Ochsner, of Chicago, there are some cases in which we might take the chance of waiting, but few of us possess that ability, and it is therefore, generally speaking, safer to operate just as soon as the diagnosis has been made.

The second thing that impressed me was that Dr. Spalding was able to remove the appendix in most of the abscess cases, and the excellent judgment displayed in allowing it to remain in cases where he was fearful of doing too much trauma and aggravating the patient's general condition. It is said that the more skilful a surgeon is, the more often he will be able to remove an appendix which forms a part of an abscess, but it is certainly much better at times to leave the appendix to be removed at a second operation rather than to expose the patient to too great risk.

The diagnosis of appendicitis is something which we should all study with more care. Almost any surgeon can remove an appendix, but not every one can make the diagnosis of appendicitis. The way in which the symptoms arise is probably of as much importance as the symptoms themselves. However, it is so late that I will not attempt to go into that phase of the subject. I simply wish to compliment Dr. Spalding upon the outcome of his cases.

C. B. Spalding, (Closing): I appreciate the discussion that has been accorded my report.

One point that I wished to bring out especially, was that we should have the anatomy of the abdominal cavity fresh in our minds in dealing with these cases, so as to be able to do the operation with the least possible amount of trauma. I have seen a great deal of trauma done by the handling of viscera in an effort to determine just what part of the intestines it was.

Another point is the treatment of abscess cavities and the method of draining. While in a great many cases the appendix can be successfully removed through a grid-iron incision, I do not believe it is suitable to all cases. However, the old idea that a grid-iron incision gives one no room has been changed by the possibility of splitting the sheath of the rectus and shifting the rectus over. In some of these cases the mass is so apparent that it is possible to cut down directly upon it through a grid-iron incision, and this

reduces the liability to subsequent hernia.

One point to be remembered is that we should not constrict the tissues too tightly around the drainage tube, because if we do it is apt to cause a great deal of sloughing. The tissues will not break down if not constricted too tightly.

I have been fortunate; none of the cases reported have developed hernia. If we will conserve the muscle tissues, do not cut against the muscle fibres, pay particular attention to the drainage, keep the patient in bed a sufficient length of time, and keep the wound clean, it will largely do away with the danger of subsequent hernia. Many of these patients apparently had enough sloughing to give rise to a hernia, but so far as I know, none of them had developed such a condition.

MEDICAL PROGRESS

DEPARTMENT OF BACTERIOLOGY.

By JNO. D. ALLEN AND WM. EDGAR FALLIS,
Louisville.

SPECIFIC FERMENTS.

The study of specific ferments, or ferments generated during parenteral or cell digestion, has opened up an entirely new field for diagnosis and therapeutics. It has long been known to be a fact that individual cells react to foreign substances and during this reaction generate protective substances more or less specific in character, but only recently have these specific protective substances been made a special study, isolated and used as diagnostic and therapeutic agents.

Any substance which reaches the parenteral cells without having been previously digested by the ferments and enzymes of the intestinal tract, is treated by the individual cells as a foreign substance. The prime object of cell life is digestion, consequently every substance foreign or not, which comes in contact with cell life is treated as food by one cell or another of the animal body, consequently foreign substances which have not been previously digested by the intestinal tract and suited for cell assimilation have to be digested by the body cells, at least digestion is attempted, and during this digestive process ferments are thrown off by the cells, which ferments act as digestive agents and will under suitable conditions destroy, or digest the foreign substance; at least they will split a complex molecule into a simple one, such that the cells can assimilate. Since the molecular structure of all different substances is different, it is necessary that the ferments generated for the digestion of different substances must be different for each foreign substance, in other words must be specific. Therefore whenever a foreign substance gains

entrance to the body cells, the fluids of the body bathing these cells contains the specific ferments, or digestive substances stimulated by the specific foreign substance. The demonstration of the specific ferments in the body fluids diagnoses the presence of the specific substance. All foreign substances undigested or unneutralized are toxic to the body cells and it not infrequently happens that the cells are unable to generate sufficient digestive ferments to care for the foreign substance; therefore if we can supply the body cells with these ferments we have administered a wonderful therapeutic agent.

The demonstration and administration of these specific ferments, constitutes the newest field in medicine, and is the basis of the "sero diagnosis" of pregnancy, cancer, and syphilis.

Alderhalden and other laboratory workers have done extensive work in the diagnosis of pregnancy by demonstrating the presence in the blood serum of specific ferments for placental tissue. During pregnancy small particles of placental tissue gain entrance to the circulation, this being a foreign proteid is digested by the parenteral cells and digestive ferments for the same are thrown off into the circulation. So that if the blood of a pregnant woman is mixed with placental tissue *in vitro*, digestion takes place proving the presence in the blood of the specific ferments. Owing to faulty technique we have received conflicting reports as to the merits of this reaction, however at present most of the points of error have been eradicated, so that it is taking its place as one of our most valuable diagnostic methods. Statistics show that a negative reaction is of more diagnostic importance than a positive one. Having demonstrated the fact that a patient suffering from the toxemia of pregnancy gives a negative reaction, proving the lack of these digestive ferments in the patient's blood, some good results have been obtained by the administration of the serum of a normal pregnant patient, which supplies the ferments necessary to digest the foreign proteid derived from the placenta, evidently the cause of the toxemia of pregnancy.

Similar work is being done in the diagnosis of cancer. Cancerous tissue of course, being foreign and gaining entrance to the parenteral cells is digested by these cells and specific ferments are thrown off so that the blood of a cancerous patient contains ferments which will digest cancerous tissue *in vitro*. This work is still in the experimental stage, due to the fact that it is impossible to obtain pure cancerous tissue free from connective tissue, so that non-malignant tumors sometimes give positive reactions.

Along the same line a very accurate diagnostic method for syphilis has been worked

out. In this case gummatous tissue is digested *in vitro* by the blood of a syphilitic patient. The gummatous tissue being a foreign substance specific ferments are generated for its digestion. This test has proven of equal importance with the Wasserman reaction in the diagnosis of syphilis.

Dr. Vaughn has worked extensively along this line and proven that infections are taken care of by the generation of digestive ferments, by the parenteral cells, for the specific bacteria. He also has broadened our knowledge of opsonins proving that they are digestive ferments for the bacteria in question, and that vaccines act by stimulating a production of specific ferments which in turn digest the living bacteria, or prepare the bacteria for cell digestion. J. D. A.

In attempting to lay before the profession a review of the Progress in Bacteriology and Pathology, it is needless to say that in an article of this nature we can but discuss a few of the more practical advances of the day.

Among the most frequent diseases to receive special study, from an etiological standpoint is rheumatism, and although good authorities have for a number of years considered the disease as an infection, no definite bacteria was considered until the streptococcus rheumaticus was isolated and although for a short period of time this organism was considered a specific cause it is a thoroughly established fact, that other bacteria are producing exactly the same phenomena. All these organisms seem to be of the lower grade of virulence and have a selective action for serous membranes. Greeley has studied the disease very carefully and his work is convincing, that 90 per cent. of these infections are some form of the streptococcus. The pathological and etiological findings in conjunction with the experimental lesions which he produced, leads one to believe that his conclusions are correct, and that acute inflammatory rheumatism, chronic articular rheumatism and arthritis deformans, are but different manifestations of the same cause, modified by the individual susceptibility. The type of the infecting organism, the local and general resistant power of the patient, and the duration of the infection.

Rosenow in his recent investigation has isolated three types of cocci, from the joints of rheumatic subjects, these three strains all show markedly different culture and experimental clinical phenomena, for example the first type will produce clinically just a simple uncomplicated non-destructive arthritis, the second type will produce arthritis, pericarditis and always produce some muscle changes. The third type will produce arthritis with pericarditis and endocarditis, but

no muscle changes. He thinks that the different culture changes explains why different observers name these organisms streptococcus, diplococcus and micrococcus rheumaticus, depending upon the particular type with which they happen to be working.

Another of the very prominent advances, during the last few months is the work of Plotz, in isolating and cultivating a small anaerobic bacillus from the blood of five patients suffering from Brill's disease and from six cases of typhus fever. A review of the recent literature on this subject, will aid one in believing that Plotz is correct, and that he has discovered the specific organism for these two diseases, this also confirms the work of Anderson and Goldberger who had previously studied these two diseases and considered them identical with Mexican typhus with which they were experimenting at that time. Monkeys which they had previously inoculated with the blood of patients ill of Brill's disease, were immune to subsequent infections with typhus and Mexican typhus, and monkeys recovered from infections of Mexican typhus were immune to Brill's disease. This evidence seems to be sufficient to establish not only the etiology but the identity of these two diseases.

Of great importance indeed is the finding of Noguchi, which has apparently settled the etiology of rabies. In this work he was employing a similar technique to his original method for cultivating the spirochetes of relapsing fever and by the aid of a very high magnification he detected in the brain and medulla of infected animals very minute granular pleomorphic chromatoid bodies. That these bodies are the specific cause of rabies is well established in the fact that healthy animals inoculated with cultures containing these granular or nucleated bodies have developed the disease; from the brain and medulla of these inoculated animals which have developed the disease these bodies can be demonstrated in great numbers, truly fulfilling Koch's law.

Probably the most phenomenal recent development is the wonderful increase in our knowledge of syphilis and especially the neurological aspect; Noguchi's demonstration of the presence of spirocheta pallida in the brain tissue of cases of dementia paralytica, Mott's finding of the spirochete in the brain of paralytics and Verses' isolation of these organism from the cord tissues of tabetics, teaches us that the time-worn para-syphilitic diseases or symptom complex, are just as much real manifestations of a syphilitic infection as any of the other primary, secondary and tertiary lesions. This subject has been most thoroughly studied and the disease been transmitted to animals experi-

mentally. Nichols and Hough by injecting emulsions of fresh brain tissue from paretics have produced a definite interstitial keratitis identical with that which is known to be due to spirocheta pallida experimentally in rabbits.

Boas and Ronne have examined the members of thirty-three families, in which cases of interstitial keratitis have been found, and although some of the brothers and sisters of these patients suffering from interstitial keratitis were apparently sound and free from any lentic manifestation, they all showed a positive Wasserman reaction.

It is therefore evident from the proof here presented that the spirocheta pallida is an etiological factor in a very large percentage of the cases of interstitial keratitis. J. Igersheimer has excised a portion of the tissues from the eye of a patient with this condition and demonstrated the spirocheta pallida in the sections.

Before closing this brief review of such a large subject, we must mention the valuable work of Winternitz, Longscope, Cummer and Dexter, on the pathologic changes in syphilitic aortitis, which seems to prove conclusively that it is responsible for most aneurysms. These authors estimate that in from 70 to 75 per cent. of the cases of diseases of the aorta syphilis is the etiological factor, as well as in a good portion of the cases of angina pectoris.

The Wasserman reaction has detected an enormous amount of latent syphilis of the heart, vascular and renal systems, compelling us to change our views in quite a number of conditions and may perhaps do the same with regard to other organs and even the stomach, as was recently shown by White, who recently had his attention very forcibly called to the importance of syphilis in several successive cases of chronic gastric ulcer, with a (3+) positive Wasserman reaction.

This case showed rapid improvement with the present day syphilitic treatment.

W. E. F.

Phosphorus Content of Casein.—By treating a solution of casein in dilute NH_4OH with ammonium oxalate and an excess of NH_4OH and letting stand twelve hours, the authors found that the phosphorus content is reduced to about 0.70 per cent. This lower percentage can not be explained as being due to hydrolysis of casein and splitting off of phosphorus. While some of the casein is hydrolyzed, this portion does not enter into the final preparation and does not affect its composition, because the hydrolyzed portion is not precipitated by acetic acid while the unhydrolyzed part is. Analysis of various preparations of casein containing varying amounts of ash show a general correspondence between the ash and phosphorus content.

DEPARTMENT OF PEDIATRICS.

By IRVIN LINDENBERGER, Louisville.

Howard Lilianthal reports in the *N. Y. Medical Journal* of April 11, 1914, a case operated upon for hypertrophic pyloric stenosis in an infant four weeks old, by Rammstedt's operation. Gastro-enterostomy has been the usual operation of surgeons in operating with this condition, but in 135 cases as reported by Seudder (1911) there was a mortality of 49 per cent.

Weber of Dresden originated the idea of a pyroplasty without actually entering the canal, as was done in this case. Rammstedt has reported two cases operated on by this method with recovery. He makes a longitudinal incision through the indurated tissue down to the mucosa, but not through it. There is an immediate separation of the divided structures and the pylorus at once becomes patent. Without visceral suture or plastic of any kind, the abdomen is completely closed. The operation is short and easy. The wound of entrance through the abdominal wall need not be large. The handling of the viscera is minimal, and the contrast to the delicate and difficult posterior gastro-enterostomy, with its accompanying evisceration and handling of the parts, is striking, and, perhaps, most important of all, Rammstedt's operation preserves the normal relations of the gastro-intestinal tract which is obviously impossible in gastro-enterostomy.

The foregoing case was born at eight and one-half months, the birth being normal and breast feeding was begun. Ever since birth the child vomited, sometimes immediately after feeding and always before half an hour had elapsed. Weight at birth was said to have been eight pounds, on admission to hospital it was four. Bowels had not moved since birth. On examination violent gastric peristalsis was easily seen. The child was fearfully emaciated. Operation consisted of a right paramedian incision between the fibres of the rectus, the hard, densely infiltrated pylorus was easily found and drawn from the abdomen. The tumor, about two and a half c.m. long, was very sharply defined at the gastric and duodenal limits. The stomach was apparently normal, though very tense. A longitudinal incision was made just beyond the visible limits of the duodenal vein; so as to avoid unnecessary hemorrhage. This incision was carried down carefully to the mucous membrane of the pylorus, and it was just a little longer than the indurated mass itself. With a little filling by means of blunt pointed dissecting scissors, there was a sudden separation of the lips of the pyloric wound, and the tense stomach immediately became flaccid.

The relief was most striking. The wound was closed with interrupted chromicized catgut sutures, passing through all the structures except the skin. In three days the child was transformed and under good nursing and careful feeding, there was a gratifying convalescence.

THE MANAGEMENT OF BREAST FEEDING.

Eric Pritchard (*American Medicine*, New York, June, 1914) alludes to the necessity for long intervals between feeding and for giving an extended period of rest during the night. Maynard, Ladd, *Archives of Pediatrics*, 1913, p. 740, shows that the stomach requires even a longer period than is usually supposed to become completely empty, sometimes as long as 6 hours.

In breast-fed infants precautions should be taken to see that they are not underfed during the later months. However he has thought that an infant was being starved when in reality it was being over-fed, and often he has thought that over-feeding was the trouble when events have proved that the symptoms were due to starvation.

The cardinal symptoms of underfeeding are (1) Loss of weight, or at least a failure to gain weight at the normal rate.

(2). Constipation, or in case of extreme starvation the passage of small mucus stools, and

(3). A limited excretion of urine (oliguria).

The cardinal symptoms of overfeeding are (1) At first unduly large increments in weight succeeded by a period of stationary or falling weight.

(2). The passage of large bulky stools and the presence of redness of the buttocks. Constipation sometimes develops, but the motions are large when passed.

(3). The passage of a large quantity of water (polyuria).

(4). Surating and vascular dilatation of the capillaries of the face, and

(5). Rapid breathing.

It is naturally of some importance to supply the right food in the right amount when recourse is had to supplementary feedings. The amount of food to be given by hand will depend on the quantity of breast milk already taken by the infant. It is unwise to augment the quantity too suddenly or drastically. The danger of overfeeding an unprepared stomach is very great.

Among the poor the simplest and most practical method of supplementing a defective breast supply is to order a quarter, a half or a whole teaspoonful of condensed milk to be given after each breast feeding, the food to be given in a spoon without any previous dilution; this obviates the possible danger of overdistending a stomach already full of a

thin and poor milk, for it must be remembered that, infants are often underfed although the quantity of breast milk may be ample. This is especially the case towards the end of lactation, when the mother has become exhausted from prolonged suckling and the milk becomes thin.

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Feeding of Sick Infants.—F. C. Neff, *Missouri State Med. Association Journal*.

Pertussis, Recent Advances in Our Knowledge of.—J. R. Geisky, *Ill. Med. Jour.*, June, 1914.

Pertussis, Vaccine Treatment of.—J. A. Kirk, *Kentucky Medical Journal*, July, 1914.

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Syphilis, With Especial Relation to Hereditary Syphilis, Review of.—*American Jour. Dis. Child.*, July, 1914.

Vascular Disease in Infancy and Childhood, R. Abrahams, *N. Y. Med. Jour.*, July, 1914.

Urine, Ammonical, in Infants and Children. Clinical Significance of.—R. A. Strong, *Miss. Med. Monthly*, July, 1914.

Out-Patient Clinic, Organization of An.—R. M. Smith, *Arch. Pediat.*, May, 1914.

Infection with Tuberculosis in Infancy.—

For the first year of life, von Pirquet says, the bronchogeneous infection with tuberculosis is by far the most frequent way of entry (about 95 per cent. of all infections). The enterogenous infection is not important—at least, not in Austria (1 per cent. to 2 per cent. of all infections). A placentogeneous infection of the fetus is a rarity, as is also stomatogeneous and dermatogeneous infection. Prophylaxis of infant tuberculosis has chiefly to deal with the separation of the nursing from the coughing adults.

OFFICIAL ANNOUNCEMENTS

THE NEW LAW FOR THE PREVENTION OF BLINDNESS.

An Act to impose further duties upon the State and County, and City Boards of Health, Physicians and others in regard to the prevention of blindness in this Commonwealth.

Whereas, trachoma, and ophthalmia in the new-born, both highly infectious eye diseases, which usually result in blindness unless promptly recognized and treated, now exist in widely separated counties and sections, and everywhere show a tendency to break over official control and become widespread, and,

Whereas, so large a per cent. of those who now have these diseases, or who are exposed to the contagion of either of them, will become charges upon public charity, as to make systematic precautions against their further spread matters of great financial, as well as humanitarian importance, now, therefore,

Be It Enacted by the General Assembly of the Commonwealth of Kentucky:

1. That it shall be the duty of the county board of health of each county, acting in cooperation with the county medical society and the State Board of Health, to arrange for an annual course of instruction or school for the physicians, midwives and nurses of such counties to teach the importance of, and the latest and best methods for the early recognition and treatment of, the dangers from, and the precautions to be used against, the infections and contagion to all who come in contact with, cases of trachoma, and of ophthalmia or any other disease of the eyes of the new-born, or with any towel, utensil or other thing used by or for them; and the importance and imperative duty of at once reporting all cases of such disease to the county and city health authorities, as may be, and of keeping a true record of all such cases.

2. That it shall be the duty of the State Board of Health to secure the cooperation and assistance of the national health authorities in dealing with these diseases, and to prepare and issue bulletins and other literature containing professional and popular information as to the prevalence and infectious character of such eye-diseases, and the precautions to be used against such infections; and to furnish formulae and other information for the use of physicians and midwives in the management and treatment of such diseases. It shall be the duty of the county boards of health to furnish to physicians and midwives the simple drugs to be used for the indigent in preventing and in treating such diseases.

3. That it shall be the duty of every phy-

sician and of every midwife, who, while in attendance upon a baby under thirty days old or upon its mother, has observed ophthalmia in the new-born baby, and the duty of the head of the family and of the trained nurse in a family in which there is a new baby under thirty days old and no physician in attendance, and the duty of trained nurse and of the head of any institution in which there is a baby under thirty days old and no physician or midwife in attendance upon the mother, to report the case of ophthalmia in the new-born within six hours after observing it to the city board of health, if the case shall have occurred in a city then having a city board of health, or if there be no city board of health, or if the case shall have occurred outside the city, to the county board of health, within twenty-four hours after observation. And it shall be the duty of every physician to report each case of trachoma so diagnosed by him as attending or examining physician within five days after such diagnosis. Any physician, midwife or nurse, or head of family who fails to make the report required by this Act, shall upon conviction, be fined not more than one hundred dollars; and persistent failure or refusal to make such report or to take the necessary precaution to prevent the spread of such disease shall be proper ground for the revocation of the right to practice, after due notice and hearing as now provided by law for the revocation of certificates to practice medicine in this Commonwealth.

4. That "Ophthalmia in the New-born" shall be understood to be "any inflammation, swelling and redness of either eye, or of both eyes, either apart from or together with any unnatural discharge from the eye, or eyes of a baby."

5. That all laws in conflict with this Act are hereby repealed.

Approved March 9, 1914.

Thyroparathyroidectomy.—According to the authors hypoglycemia resulting from thyroparathyroidectomy is neither the cause nor the effect of the accompanying tetany. Moreover, the condition of hypoglycemia precedes that of tetany. It is therefore suggested that the removal of the thyroids and parathyroids give rise to two distinct effects, one being manifested on the blood-sugar regulating mechanism, causing hypoglycemia, the other acting on the nervous system, producing tetany. Calcium appears to be intimately associated with both effects, for injections of calcium lactate will temporarily restore blood-sugar to normal and also abolish tetany for a time. Calcium may play an important role in maintaining the equilibrium of the blood-sugar regulating mechanism during normal life.

COUNTY SOCIETY REPOS

Franklin—The Franklin County Medical Society met at the regular time, on roll call no one present but the secretary; minutes of the previous meeting read; no quorum present during the year; society still unresurrected. The secretary is at a loss to account for the apathy of the profession in the city and county and can only explain it by assuming that we have the most progressive lot of physicians ever. We have been devoting our whole energies to preventive medicine and have so far succeeded that our sick people are so few in number and diseases so restricted and eliminated that the practice has fallen off so that the usual patronage does not afford a four course—three-hots-a-day to all of our physicians. To say that professional jealousies and surreptitious advertising did not exist in our community, would put the secretary in the eligible list for honorary membership in the Ananias club.

The fakir that makes folks talk about his skill
And advertise him to his erstwhile will,
And give him his full desire of notoriety
And show him resplendent in society,
While he cuts the pie with great felicity.
And expands his rep with huge elasticity
So he can rike in "the old-long--green."
He tours the polyclinics with the greatest ease,
Puts out the latest dope from o'er the seas,
Talks glibly of what they do in Congalese
Munich, Vienna, Paris, London, Japanese.
And airs his pulchritude with perfect ease
And speaks in language they don't understand
From Greenland's icy mountains to Coral's
golden strand.
Content with self if they but come across I
'wee

With the cheerful jingle of "the old-long-green."

Hic jacet—The Franklin Medical Society. Re-
quiescat in pace.

U. V. WILLIAMS, Secretary.

Greenup—The Greenup County Medical Society met at Greenup on October 1, 1914. The meeting was called to order by H. T. Morris, President.

H. T. Morris read a paper on "Eclampsia," which was very interesting. All members present discussed the paper. From the experience of those present post-partum eclampsia was the most fatal.

The Greenup County physicians have experienced considerable difficulty in administering anti-toxin to children who were victims of diphtheria owing to several physicians in the community degrading the value of antitoxin in diphtheria. These so-called have circulated reports among the laity that diphtheria antitoxin kills more children than the disease itself, and if they

do not die from the immediate effect they are sure to succumb in five years' time. Such assertions by men holding a license to practice medicine was considered a menace to the community, and a disgrace to the medical profession, by all members present.

A. S. Brady, who was elected councilor of this district at the recent meeting of the Kentucky State Society held at Newport, recapitulated the proceedings of the meeting in a very interesting and brief manner.

The next meeting will be held at Fullerton, November 5th. All members will be expected to be present as officers for the ensuing year will be elected.

E. R. Fitch, Russell: Selected.

M. W. Meadows, of Fullerton: "Nocturnal Enuresis."

A. J. Bryson, of Fullerton: "Medical Ethics."

J. I. Rathburn, Brady and Franz: Case Reports.

Discussion to be opened by J. I. Rathburn followed by Drs. Vidt, Morris, Hunt, Brady, Bryson, Frantz, Fitch, and Meadows.

After the meeting a luncheon will be served at the Davis Hotel.

A. P. HUNT, Secretary.

Taylor—The Taylor County Medical Society met in the office of the Secretary at Campbellsville, September 10, 1914.

There were present Drs. Buchanan, Heistand, Murphy, Gowdy, Reesor, S. H. Kelsay, Buckner and Atkinson.

The program for the day was advanced for the following meeting in October and the time was taken up in hearing the report of the health officer, Dr. Atkinson, on the proceedings of the health conference recently held in Pineville.

By unanimous vote the society adopted a motion to increase the charges for medical work in the county on a basis of 25 per cent. This step was considered necessary on account of the rapid increase in all living expenses, and the sharp advance in the cost of many of the medicines in constant use.

J. L. ATKINSON, Secretary.

Radium in Treatment of Cancer.—Although the range of MacKenzie's experience has been limited, he points with great satisfaction to the treatment of a considerable group of cases, which, treated by radium, have shown striking results, the best having been obtained in the treatment of malignant diseases, especially cancers. The complete list, however, includes also cases of sarcoma, rodent ulcer, angioma or nevi of different kinds, especially the prominent arterio-venous variety, pigmentary nevi, keloids and disfiguring scars, lupus, the tubercular form and lupus erythematosus, inveterate and chronic patches of skin disease, urethral caruncles, warts, moles and certain chronic neuralgias.

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EDITORIAL.

UNIVERSITY OF LOUISVILLE.

Of almost equal importance with the question of Divisions of Fees is the report of the Committee on Medical Education, of which Dr. W. W. Richmond, Councilor for the First District and Members of the State Board of Health, is Chairman. Every member of the Association is interested in the University of Louisville. More than half of the physicians in Kentucky graduated from it. Its faculty is selected from the best medical teachers in Louisville, and it is excelled by no medical college in the south or west either in its clinics, laboratories or teaching force. It is with great pride that the JOURNAL can make this statement. Many of our readers have noticed that for several years our columns have been conspicuously silent on the subject of medical education in Kentucky except to indicate confidence that those at the helm were working out plans which would eventually restore Louisville to its former prestige as a center of medical education. The time has arrived.

It is important for the profession to understand that no student can enter a medical college anywhere in this country who has not completed a four-years high school course, and one year in a reputable college. After next year, two years in a reputable college will be required. This regulation has been made necessary in order to reject the large class of students who have heretofore entered medical colleges wholly unprepared for undertaking the study of the intricate subjects which go to make up the modern practice of medicine. Our State Board of Health, in common with others, has found that from 25 to 50 per cent of the illy prepared graduates in medicine in the past have been rejected upon examination. This was unfair both to the students and to the colleges, and it is made impossible in the future.

It is especially upon the clinical side that the University of Louisville has made progress. The new City Hospital was planned by a great genius, Dr. Ap Morgan Vanee, and he has preserved a careful and fair blend of the two important features of public hospital administration. Of course the main essential in a city hospital is the kindly, careful, scientific treatment of those residents of the city who are unable to secure adequate medical care elsewhere. After careful investigation, your Committee is confident that there is not a city hospital in the United States that has a more competent, attentive or painstaking staff than the City Hospital of Louisville. The Editor of this JOURNAL had a recent opportunity of knowing of a negro cook being badly cut in the abdomen. She was hurried to the Louisville City Hospital and seven of the best surgeons in the City of Louisville met together from 9:30 p. m. to 1 a. m., in consultation upon this case, caring for the dependent negro woman with the same skill and attention that they would have given the most influential citizen of the City. That this service was done without thought of compensation and that similar services could not have been purchased for less than a thousand dollars makes us all thrill with pride because the poor of the metropolis of the State are, for the first time in its history, receiving proper medical attention.

As important as is the care of the indigent sick and their early restoration to health, is the equally essential function of the City Hospital that it will help to provide competent physicians and surgeons for future generations, both for the indigent and the well-to-do. There is no well appointed public hospital in this country or in Europe which is not under control of the teaching staff. Take the case of the negro woman referred to above and the eight medical students who were permitted to hear the consultation in this case, see the operation and to be inspired by the

altruism of their teachers was really far more to humanity than the saving of the one life involved, and, while the latter function of a public hospital should not for a moment interfere with the former, to which it is entirely subordinate, the City of Louisville is to be congratulated that its Mayor, himself a distinguished physician, understands these matters so fully that he has determined to have the Louisville City Hospital give proper care to its sick poor and, at the same time, maintain its important function as a clinical teaching hospital.

To the medical profession of Kentucky, the JOURNAL heartily and unreservedly commends the medical department of the University of Louisville. When you are in the City drop in and note the wonderful improvement in every respect. If you desire any information in regard to medical education, drop a note to its new Dean, Dr. Henry Enos Tuley, and you will receive a reply with promptitude and courtesy that will make you understand the new and more successful regime in medical education in Kentucky.

DIVISION OF FEES.

We trust that every reader of the JOURNAL will carefully consider every page of the transactions of the House of Delegates of the Kentucky State Medical Association at its recent meeting in Newport, all of which are published in this issue.

As important as are all of the transactions, we invite especial attention to the amendment to the By-Laws, which has been adopted with a view to stopping the growing evil of division of fees between the specialist and general practitioner. The surgeon or other specialist who pays the general practitioner a part of his surgical fee for the reference of a case, confesses himself to be dishonest, and admits at least to this practitioner, that he is incompetent. A general practitioner who refers a case to such a surgeon for a money consideration is equally dishonest. The time has come when a line is to be drawn on this subject in Kentucky. In the past, many general practitioners and, possibly, a few surgeons have erred in this matter through ignorance. This will be impossible in the future. It is the purpose of the Committee on Public Policy of the Association to take the matter up through the daily press, and the State Board of Health has indicated that it will consider a division of fees on the part of either the specialist or general practitioner a sufficient cause for the revocation of licenses to practice medicine in Kentucky on the ground of dishonorable and unprofessional conduct of a character likely to deceive and defraud the public. It is urged that this mat-

ter be considered by every county society. The medical profession of Kentucky has never had before it a more important problem and it has never yet been confronted with any difficulty which it has not solved and solved correctly.

SCIENTIFIC EDITORIALS.

VACCINE THERAPY IN SKIN DISEASES.

While vaccine therapy has been used and found wanting in a great many diseases, the same might be said in regard to its use in dermatology. In internal diseases one might get imaginary results. If we see a little improvement in a certain disease, in which vaccine has been used, we are at once imbued with the idea that vaccine treatment must have caused this improvement. A case of intestinal stenosis with generalized toxic condition comes to my recollection where a physician, a friend of mine, urged the use of VanCott's vaccine as the only chance left for the patient. The advice was not taken. Patient made a perfect recovery. Had VanCott's vaccine been used, both the patient and physician would have given the vaccine treatment credit for the recovery.

We have no real status in regard to vaccine and serum treatment. The preparations and claims made for the patented vaccines and serums by certain pharmaceutical houses are ridiculous and dangerous. Wright and Adami both warned the profession against unscientific use of commercial vaccines, especially the mixed varieties.

Dermatology had the same experience with vaccine treatment, but in this branch of medicine we can see the improvement and non-improvement more readily than in internal diseases. The consensus of opinion is, that outside of furunculosis, the vaccine therapy has failed in dermatologic cases. Notwithstanding this general opinion, there arises a champion for vaccine therapy in the person of A. Whitfield, the noted London dermatologist. For the sake of those who are enthusiastic about the vaccine therapy, we will give the readers his findings. From the many articles written by Dr. Whitfield, on the subject of vaccine therapy, we can give his conclusions in regard to the technic and results of this method of therapy.

Whitfield claims that the users of vaccine therapy must guide themselves with the importance of opsonic index (Wright), and remarks that in tubercular troubles and in furunculosis you always meet with a high opsonic index which does not always point to a strong immunity. Such facts destroy

Wright's theory. Gilchrist claims that it is not necessary to find the opsonic index in the treatment of cutaneous diseases.

The doses for injection must be regulated according to the purpose for which it is used: Whether it is used for the removal of inflammatory processes of the skin (in tuberculosis), or whether it is used for prevention's sake (furunculosis). In the first condition and in all acute processes, the dosage should be guarded, while in other conditions, large doses may and must be given.

The curative action of vaccines depends upon its influence on the stage of the disease and on general protective adaptability of the organism. Wright attributes failures to the weakness of the patient's power to produce antibodies.

Referring to different diseases that are amenable to vaccine therapy, Whitfield lays stress on the importance of studying the causative factor of such diseases, and says that the vaccine therapeutists often make mistakes by applying, for instance, only one certain vaccine for acne vulgaris, even when it is caused by dyspepsia, or eczema of the lips, caused by strong mouth washes.

In furunculosis, Whitfield claims to have had uniform good results from staphylococic vaccine. He finds exception in recurrent furunculosis used at the beginning was up to 1,000,000,000 staphylococci at one time; in the last few years he used only 100,000,000. Whitfield found that the smaller dose diminished the therapeutic effect and he had to fall back on the original dose and never gives less than 250,000,000 at the first dose. Improvement is noticed between the intervals of injections. He gives it every two weeks and, then, every two or three months. Even after the patient has received several injections, the recurrence of the furunculosis may be expected within a year, but he claims that after-attacks are not so severe.

Staphylococic injections have been given in Burkhard's impetigo and sycosis. The first is improved a great deal by injection of staphylococic vaccine, while the other is rather aggravated.

Whitfield claims that X-Ray in sycosis is the best remedy, particularly, if it is complemented with antiseptic applications. He insists that X-ray should be given until complete epilation has been accomplished and the hair follicles completely destroyed.

In pyogenic eczematoid dermatitis vaccine therapy must be combined with antiseptic application.

Impetigo contagiosa, caused by streptococic infection, vaccine therapy must be applied if external applications do not cure it. In such cases staphylococic and streptococic in-

jections must be used, as staphylococci are often associated with streptococic infection.

Streptococic vaccine is also useful in erysipelas (small doses, 5,000,000), and in streptococic dermatitis of Sabouraud.

In regard to acne vulgaris, Whitfield states that vaccine is a good auxiliary remedy. The vaccine must be prepared from staphylococic and acne bacilli.

In tuberculosis the most useful vaccine is old tuberculin. Treatment must be administered cautiously. In severe inoperable lupus vulgaris good results have been obtained from old tuberculin. The same may be said of erythema induratum of Bazin and long standing tubercular ulcers. It is useless in leg ulcers, in pruritus ani and trichophytosis.

After enumerating the different diseases in which vaccine treatment has proved beneficial Whitfield acknowledges that he has met with many failures and insists that this method of therapy must be used cautiously and conservatively.

Thus we see that even the most enthusiastic followers of vaccine therapy are uncertain of its action and results. No status has as yet been established as to its value, uses and technique.

M. L. RAVITCH.

THE NEGRO AS A PSYCHOLOGICAL PROBLEM.

Every man, woman and child south of Mason and Dixon's line is interested, directly or indirectly in the economic, pedagogic, political, social and eugenic aspect of the negro race. The negro has, at all times, since his admission to the South as a slave been, to a certain extent, the burden that the South has had to carry for something that should never have had its inception. Of late a great deal of interest has been evinced in the problem of miscegenation and a number of states have passed laws to prevent such progeny.

With the increased complexity of society of the Southern States, it is only natural that the negro problem should take on a correspondingly complex character and that it should come more and more into the foreground of Southern consciousness.

The civil war, with its terrible days of reconstruction gave way to a gradual rehabilitation of Southern political liberties and the reestablishment of stable local governments. When this was established a period of economic and social expansion began in the South, and Southern men, freed from the necessity of combating ceaselessly for political life and social integrity, set about developing the long neglected natural resources of the country.

The South is enormously rich; its resources seem almost limitless. It is in a great deal

better state than it was before the war. Those peculiar and essential customs that are known as "Southern," especially the personal relations between Southern people have given way to the gradual cultural development of the twentieth century and we believe we can truthfully say that the South is better, even with her many problems. We do not believe that the South, at the present time, is like the story related by one of the "oldest inhabitants." As the story goes a friend from the North commented upon the beautiful scenery as they drove along the bank of the river to which the Southern patriot replied; "you should have seen it before the war." After several such experiences and feeling that he was treading upon safe ground, he made the remark that the "moon-light was most beautiful" whereupon the patriot replied: "Yes, but you should have seen it before the war."

We may here remark that this editorial has been brought forth by an article of Dr. James Bardin of the University of Virginia, recently published in *Popular Science Monthly* under the caption of: "The Psychological Factor in Southern Race Problems," and from which we will quote very freely.

What really is the aim of the Southern white man's interest in the black man? It is really an attempt on the part of the Southerners to help the negro adapt himself to those Southern conditions, which has a peculiar significance to the average Southern man; it implies an attempt to increase the efficiency and economic value of the Negro rather than his elevation to a higher social rank. The negroes themselves are working to accomplish this end in practically every institution maintained by them throughout the South. Some of the best and most brilliant of Southern negroes realize fully this race problem and are working in this direction with great earnestness. The ideal seems to be to force the negro to earn a better place in society and political life by the sweat of his brow and the toil of his hands; which toil, it is confidently hoped, will be guided by a constantly increasing intelligence, itself the indirect fruit of his labor.

On the other hand, outside the South the negro problem is generally viewed as not primarily an economic, but as a political and "social rights" problem, believing that as restrictions are removed, the negro's position will improve in every respect, and he will ultimately take his place side by side with the whites, on an equal footing and possessing an identical cultural equipment.

Each group is attempting to help the negro to attain a more complete civilization; and each is attempting to do this by trying to make the negro absorb the white man's civil-

ization and come into complete accord with the profound moving-springs of the white man's social sanctions.

A state in which the whites and the negroes live side by side, each group partaking of the same civilization on a basis of ethical equality, and each playing its part in government and society according to its ability, a bi-racial state, theoretically, should have a single civilization, common to and understood similarly by both peoples; this civilization—and here is the vital point—will be the civilization of the whites.

This conception may be stated in various ways; its boldest, most general, and most erroneous form is the hypothesis that "all men are equal;" a more moderate form is "equal opportunity for all, special privilege for none." We here again comment upon that time honored, hackneyed and well worked chestnut of "all men are equal" that this really should be interpreted that all men are born equal (or supposedly so) *before the law* and in the manner of justice, we believe that this should apply to the negro. There can be no greater fallacy than this: "all men, when normal, possess the same capacity for intelligence and the same ability to absorb culture and to become civilized;" in other words, that all men are essentially alike mentally and morally, when viewed in the large, notwithstanding physical and physiological differences. It is tacitly thought that while the processes of evolution have given one race a white skin and another race a black skin, have made one race relatively resistant to tuberculosis and the other relatively susceptible, and so on, the minds of both are alike—have not diverged as their bodies have in the evolutionary series—and that the mental processes of one may become, by proper direction, the mental processes of the other.

There can be no question but that the civilization of Western Europe is a dominant one, so far as the negro is concerned. This is plainly shown as the result of miscegenation. The progeny, a mulatto, again crossed with white blood and still in another generation crossed with white blood, does not so far as skin color is concerned show anything else than the dominant influence of the white race in its relations to paternity. The white is ever the dominant race.

The Christian world, with its altruistic ideas demands that all men be given the fullest and most equal opportunities to get the best out of life. Out of this misconception of the ideal of human equality have sprung many grievous and oftentimes dangerous fallacies, chief among which are two: (1) that all men possess the same potentialities for culture; and (2) that a so-called "higher culture" may and ethically should be substituted for a so-

called "lower culture" whenever opportunity presents itself.

Culture, in its broadest sense, is a phenomenon of race. Yet, despite these evident differences, western Europe and American culture is a definite, characteristic thing, and underlying it we recognize a common stock of traditions and general ideas which have come down through the ages "in the blood," so to speak. The white-skinned people of western Europe and America all have approximately the same origin, in that through the remote mixing of a few strains of blood the modern racial types are set.

Psycho-analytic work by the method of Freud is also demonstrating these underlying traditions that have become a cultural foundation and hereditary entailment upon the various individuals of a certain civilization. This is one reason why the western European is so easily assimilated for behind all the difference lies a common kinship of blood and of tradition, which has operated to produce the unit we call western European culture; and this racial kinship is the principal reason why it is not difficult for one group of western Europeans to adopt without revolutionizing it, the culture of another group. Furthermore, the several strains of blood, particularly in the higher levels of society where most of the productive thinking is done, are incessantly mixing, and there are being interchanged incessantly, through heredity, the mental predispositions peculiar to the groups thus crossing.

Yet Chinese culture is definite, peculiar and recognizable, and it is essentially Mongolian, just as our culture is essentially European. Behind the differences among the various groups in China lie their Mongolian blood and their common store of traditions, the influence of which have moulded them into what they are to-day. Exactly the same statements apply to the negroes. They have, physically and mentally, definite and easily recognizable characteristics, indicative of a common origin, different from our own, and expressed in a similarity of negro culture throughout the world.

The fact of race as a physical and mental phenomenon is evident to every one. These differences are ineradicable as long as the strain of blood remains unimpaired. We can not, do what we will with environment, change to any appreciable extent our anatomical make-up. A Chinaman's skin will remain yellow, a negro's skin will remain black, no matter what we do to alter them, so long as the races remain pure, and the product of this crossing, should it become permanent, is a different race.

From the point of view of psychology, on the other hand, we have assumed that this

principle is not true, but we believe we can change his mental characteristics. In other words, while we are certain that we cannot change the negro's facial angle, we are equally certain that we can change his mental angle and make it like our own; while we consider it absurd to think that we can do anything to make the negro's physical skin become white, we believe firmly that we can make the psychological analogue of his skin exactly like our own.

But is this a fact? Racial psychology says no. Mental characteristics are as distinctly and organically a part of a race as its physical characteristics, and for the same reason; both depend ultimately upon anatomical structure. Racial mental-set, racial ways of thinking, racial reactions to the influence of ideas, are as characteristic and as recognizable as racial skin-color and racial skull conformation. Ultimately, mental differences must depend upon anatomical and physiological differences; but these differences are differences in the structure of the brain itself.

The more the races of men are studied, the more certain becomes the evidence to show that races have characteristic mental peculiarities, which would serve to distinguish species and varieties almost as well as physical characteristics. These differences in mental peculiarities, this racial-set is one of the general and main reasons for opposing the entrance of the Asiatic into this country. Why, then, should we assume that we can modify at will the mental processes of a race, since these mental processes are expressions of a certain definite anatomical and physiological organization?

For we are not merely trying to change the direction of the negro's peculiar mental characteristics, and to improve them by selection among the elements already present—we are trying, on the contrary to deprive the negro of his own racial mental characteristics, and to substitute our own in its place, at the same time keeping him anatomically a negro. That this is an impossibility follows after the former argument.

This is unreservedly true. But it is often forgotten that they have advanced an negroes, not as anything else. They have adopted the form of our civilization and to a certain extent (due principally to the influence of language), the mould of our thought. The negro has received much from us, and has profited greatly therefrom; but all that he has received he has modified in accordance with his racial mental-set; and his physical reactions to the influence of our civilization are entirely different from our own, and will necessarily remain so as long as the negro is a negro. No matter how much we educate him, no matter how much we better his position in society, he

will remain a negro psychically as long as he remains a negro physically. They will take on a different meaning in the negro's consciousness from what they have in the white man's consciousness. Concomitantly these cultural elements will modify the brain of the negro; but this modification will not follow the same pathway and will not give the same results as it would in the untutored brain, say, of a white child. To start with an anatomical structure already formed and set by heredity, an anatomical structure different from that of the white race, which produced the modifying forces in question, and the final result in the negro's brain will be determined and directed by this pre-existent anatomical make-up. The brain and the consciousness resulting from the absorption of our culture by the negro will be a brain and a consciousness different from our own to the same extent that the negro differs from us in other respects, and both will be characteristically Negroid in nature, not European.

We can never make the negro like the white man mentally.

The negroes, will continue to progress undoubtedly. But they will progress along the lines laid down by their evolutionary history. They will take our cultural elements and make them part of themselves; but they will modify these elements according to their nature, and when they have assimilated them, they will be our cultural elements no longer, but will be profoundly and permanently modified. The two races will continue to develop side by side, but the development can never be parallel—it must be divergent, even though its successive steps may perchance maintain approximately the same level, as long as the races remain pure.

The negro as an intellectual being should be studied as a negro—not as a potential white-man; and if we wish to help him, we should at least try to be sure that he is allowed to develop as a negro in the freest, broadest manner possible, and to the full extent of his racial potentialities. CURRAN POPE.

Some Anaphylactic Reactions.—Guinea-pigs sensitized to beef or dog hemoglobin fail to react, or react but slightly, to hemoglobin of other origins. The hemoglobins tried were dog, beef, cat, rabbit, rat, turtle, pig, horse, calf, goat, sheep, pigeon, chicken and man. The authors conclude that hemoglobins from different sources are chemically different. A low order of sensitization to isogenous proteins is found in guinea-pigs injected with guinea-pig tissue-proteins.

OFFICIAL ANNOUNCEMENTS

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES OF THE SIXTY-FOURTH ANNUAL MEETING OF THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT NEWPORT, SEPTEMBER 22, 23, 24, AND 25, 1914.

SEPTEMBER 22—FIRST MEETING.

The House of Delegates met at 1:45 P. M., and was called to order by the President, W. O. Roberts, Louisville.

THE PRESIDENT: The first thing in order is a report from the Committee on Credentials, Dr. C. A. Calvert, Scottsville, Chairman.

As the members of the Committee on Credentials were not present, Cyrus Graham moved that the Chair appoint a special committee for this purpose.

Seconded and carried.

THE PRESIDENT: The Chair will appoint on this Committee H. H. Hays and A. S. Denton.

THE SECRETARY: I would like to announce from the Council that J. B. Kinnaird, Second Vice-President, has been elected as President to take the place of Dr. J. W. Ellis who is absent on account of ill health.

The Secretary called the roll and the following delegates and alternates responded:

John J. Moren, Louisville; W. B. McClure, Lexington; A. T. McCormack, Bowling Green; E. Rau, Bowling Green; W. W. Richmond, Clinton; Cyrus Graham, Henderson; R. C. McChord, Lebanon; J. E. Wells, Cynthiana; I. A. Shirley, Winchester; J. S. Lock, Barboursville; P. E. Giannini, Straight Creek; O. P. Nuckols, Pineville; H. H. Hays, Bullittsville; C. G. Daugherty, Paris; C. K. Kercheval, Catlettsburg; J. L. Yelton, Brooksville; T. F. Wickliffe, Jackson; W. W. Anderson, Newport; G. J. Hermann, Newport; W. E. Senour, Bellevue; J. R. Murnan, Covington; R. Lee Bird, Latonia; P. D. Gillim, Owensboro; C. A. Vance, Lexington; L. C. Redmon, Lexington; J. B. O'Bannon, Mount Carmel; R. P. Thomas, Gallatin County; A. S. Brady, Greenup; J. V. Prewitt, West Point; E. N. Howard, Harlan County; L. S. Givens, Cynthiana; A. S. Denton, Robards; A. P. Dowden, Eminence; D. Y. Keith, A. C. L. Percefull, Virgil E. Simpson, Irvin Abell, Bernard Asman, Ap. Morgan Vance, W. Barnett Owen, Guy P. Grigsby, Louisville; Charles L. Henth, Lindsay; P. E. Bryant, London; J. E. Ray, Leslie County; J. D. Liles, Vanceburg; S. G. Zinke, Richmond; G. C. Thornton, Leb-

anon; S. R. Harover, Maysville; Pal T. Willis, Beaver Dam; W. E. Foster, Owenton; H. C. Clarke, Falmouth; Z. A. Thompson, Pike County; I. W. Johnson, Stanton; Carl Norfleet, Somerset; S. L. Beard, Shelbyville; J. W. Lewis, Warren County; Lillian H. South, Bowling Green; L. B. Croley, Williamsburg.

THE PRESIDENT: The next thing in order is the reading of the minutes.

JAMES H. LETCHER: I move that we dispense with the reading of the minutes of the 1913 meeting, and that they be approved as printed in the KENTUCKY MEDICAL JOURNAL.

Seconded and carried.

THE PRESIDENT: The report of the Committee on Scientific Work.

THE SECRETARY: The Committee on Scientific Work presents the program as its report.

THE PRESIDENT: We will now have a report from the Committee of Arrangements.

THE SECRETARY: I move that this report be deferred for the present.

Seconded and carried.

THE PRESIDENT: The next item is the Report of the Council.

The Secretary then read the Report of the Council. (See KENTUCKY MEDICAL JOURNAL, September 15, 1914, Page 540.)

THE PRESIDENT: This report will be referred to the Committee on Reports of Officers, and the Auditor's Report goes to the Committee on Finance.

A. S. DENTON: Your Special Committee on Credentials have a report ready to make at this time.

Your Committee on Credentials reports that inasmuch as the Secretary has all the credentials in hand and has *revised* the same, we recommend that the list of delegates as prepared by the Secretary be recognized as the proper delegates entitled to be seated in this House.

THE SECRETARY: I move that the report be received and filed.

Seconded and carried.

THE PRESIDENT: The report of the Secretary will now be read.

The Secretary read his report. (See KENTUCKY MEDICAL JOURNAL, September 15, 1914, Page 554.)

THE PRESIDENT: You have heard this report. What will you do with it?

THE SECRETARY: The report goes to the Committee on Reports of Officers.

THE PRESIDENT: The next is the report of the Treasurer.

THE SECRETARY: The report of the Treasurer is included in the Auditor's report.

THE SECRETARY: I would like to read

at this time a letter from the President, J. W. Ellis. The letter is as follows:

Owensboro, Kentucky., Sept. 14, 1914.

Dr. A. T. McCormack, Bowling Green, Ky.

My dear Dr. McCormack: I have your letter of the eighth instant and also received your previous letter, but at that time was not able to answer.

I have no words with which to express my deep appreciation for the kind things you say in your letters about me, and for the solicitude you and other valued friends manifest in my behalf.

It is almost full compensation to be very sick to learn to know that so many good friends feel a genuine interest in your behalf.

I have been looking forward with unusual pleasure to our approaching meeting at Newport this month, and have all the time hoped that I would be in a physical condition to attend. But now I am quite sure, I am to be denied that pleasure, for while I am able to be out of bed, I have not yet regained sufficient physical strength to make that journey, much as I desire to do it.

Please present my compliments and best wishes to all the members of our Society who are in attendance at the meeting, and on my behalf express to them my sincere regrets that I am unable to be with them.

Hoping and confidently believing that the approaching session of our Association will be one of its most profitable ones to all of its members, and again expressing my regrets that I am obliged to be denied the pleasure of being present, I remain,

Very sincerely your friend,

(Signed)

J. W. ELLIS.

A. S. DENTON: I move that this letter be incorporated in the minutes of the House of Delegates.

H. H. HAYS: I second the motion. (Carried.)

THE PRESIDENT: Report of the Business Manager of the JOURNAL, Dr. Lillian H. South.

D. O. HANCOCK: Before Dr. South makes her report, I would like to offer the following and move its adoption, and that it be sent to Dr. Ellis in the name of the Association:

The Kentucky State Medical Association, in annual session assembled at Newport, Kentucky, iniss you. We are informed that you are sick. Our sincerest sympathy is extended to you. We hope for your early recovery. Be assured that we appreciate your valuable services to this Association, and we thank you for the same.

(Signed)

D. O. HANCOCK,
W. W. RICHMOND.

Seconded and carried.

It was moved and seconded that a telegram be sent to Dr. Ellis embodying the resolution just passed. Carried.

Dr. South then read the report of the Business Manager (See KENTUCKY MEDICAL JOURNAL, September 15, 1914, Page 556.)

THE PRESIDENT: You have heard the report read by Dr. South. What will you do with it?

CYRUS GRAHAM: I move the report be adopted and referred to the proper committee.

Seconded and carried.

THE PRESIDENT: The next order is the report of individual councilors by districts. We will listen to a report from the Councilor of the First District, Dr. W. W. Richmond.

W. W. RICHMOND: I have no written report, Mr. President, but will prepare one and send it to the Secretary for publication.

THE SECRETARY: Those who were present in Bowling Green last year at the meeting had the opportunity of hearing what the delegates from the First District had to say about Dr. Richmond. At that time he was practically *hors de combat*, and they said some things about his work which he has demonstrated more conclusively this afternoon than anybody could say about him. Dr. Richmond is our premier councilor, the idol of the profession in his district and the State, and it is a great pleasure to see him back here restored, and I hope other members those who are, and who are not present, will be stimulated to do better work as years go by from his example.

REPORT OF COUNCILOR OF SECOND DISTRICT.

CYRUS GRAHAM: I find it is one of the hardest things in the world to keep track of the membership during the past year. I have tried several times to get the exact number of members that we have in good standing. I would write to the county secretary and probably he would answer and possibly he would not, and I have not been able to get an accurate account. Our Secretary here has reported 216 members in my district, while I have 282. I have on my list 314 doctors in the second district. I have a written list not only of the various secretaries, but also of many of the physicians in the district. I have made two trips to Union County. These visits were very pleasant. During one of them I had the pleasure of hearing Dr. South deliver a lecture. I made a trip to the Hopkins County Society, they had a very pleasant meeting, and I want to say that the Hopkins County doctors seem to be all in good fellowship, getting along well. I made a trip to Muhlenburg County at the solicitation of the Secretary, Dr. McCormack. I am a man

of peace, and I have no desire to fight any one. I went down there with fear and trembling upon an important mission. He said I made a good report and did the work satisfactorily.

In the Second District, as far as I know, we have quite a number of progressive men who are secretaries, who do a great deal of work, but it is very hard to get the members together.

I made arrangements to have a meeting in Webster County, but was unable to go on account of ill health, until a few weeks ago. I have not felt able to make many of these trips, but wherever I have gone I have enjoyed it. I had to encourage the members. I have been over to Daviess County, and I think they have the liveliest association in the district. We have sixty-nine members over there in good standing, and ten non-members, five colored doctors. I had the pleasure also of going to Greenville, and checking up things with the doctors there.

I never expect to keep up with my friend Dr. Richmond, who is simply a born councilor. He understands the business and knows how to get around among the doctors.

My expenses during the year have amounted to \$19.84.

REPORT OF THE COUNCILOR OF THE FIFTH DISTRICT.

DUNNING S. WILSON: December 5, 1913.—Dr. A. T. McCormack, Bowling Green, Ky.—My dear Doctor McCormack: I have the honor herewith to transmit to you a report of the annual meeting of the Franklin County Medical Society.

Acting with your permission, my secretary-stenographer called on all of the doctors in Frankfort and communicated by phone with the physicians living out of town. This she did Saturday and on Monday forenoon again reminded them of the meeting.

The following members were present at the meeting: Drs. Geo. H. Budd, J. S. Coleman, Geo. H. Heilman, Lawrence T. Minish, James W. Wilson, H. S. Keller, M. C. Darnell, Flora Mastin, Warren Montfort, W. B. Dawson, U. V. Williams, Nevill M. Garrett, John Patterson, John Stewart, J. W. Hill.

I herewith enclose a copy of a letter addressed to them from this office which goes forward to the doctors who were not present which also goes forward in this mail.

The trouble with the Society seems to be that it is going through a period of dry rot, the attendance is very small and such men as prepare papers are discouraged because they have no audience. I asked each individual man as to what he thought the trouble was and this about expresses the consensus of the opinion of those who were present.

I could not make out that there was any

faCTIONALISM among the profession which detracts from the enthusiasm. They have exchanged the hour of the meeting to eleven in the morning and have made plans to eat luncheon together on meeting days. I also suggest that they were running too cheaply and that if they had something to eat and made the dues a little bit higher, they would take more interest.

My observation has been that free shows are not attended by as large an audience as those that charge a higher price and usually the performance is much better.

George H. Budd was elected President; H. S. Kellar, was elected Vice-President; U. V. Williams was elected Secretary-Treasurer, J. W. Hill was elected delegate for two years.

They have invited me to attend the meeting on January 5th, but I do not think I can possibly go.

(COPY)

December 4, 1913.

My Dear Doctor:--

I regret exceedingly that I did not have the pleasure of meeting you at the Annual Meeting of the Franklin County Medical Society which met in Frankfort, December 1, at 2:00 p. m., in the offices of Drs. Williams and Mastin. I trust, however, that the coming year will find you in constant attendance unless professional duties prevent.

The Capitol of our State should boast the best and most active medical society within its boundaries, and I certainly hope that you will endeavor to bring its membership to one hundred per cent. and will, by your presence and your scientific contributions, make it the foremost of our county societies.

With very kind personal regards, I beg to remain,

Yours sincerely,

(COPY)

My Dear Doctor:

I wish to express my appreciation of the courtesy extended to me while in Frankfort attending the meeting of the Franklin County Medical Society, and to thank you for having been kind enough to leave your professional duties and come to the Annual meeting.

May I express the hope that you will help to put new life into the County Society and will exert every effort to secure active members among those who have either not affiliated with the Society or have become lax in their attendance.

Hoping to have the pleasure of seeing you again soon and with very kind personal regards, I beg to remain,

Yours sincerely,

REPORT OF THE COUNCILOR OF THE EIGHTH DISTRICT.

J. E. WELLS: There are a number of counties in the Eighth District that are not active, that are not doing good work, and that have a number of non-members who should be affiliated with the county society.

I have written the secretaries of all the counties in my district, asking them to give me the condition of their societies and tendering my services to help in any way that I could to bring about better conditions. I have made every effort possible to keep in touch with county societies of my district by

writing to the secretaries and individual members; having written repeatedly and received but three replies. I have tendered my services to counties where I thought I might be able to do some good, but have never had a secretary to set a date for my visit or give me a list of eligible non-members so that I could write them fixing a date to meet me. The societies that are alive and active and do not need a visit from the Councilor will invite you to attend their meetings, but the societies that are societies only in name, and have the largest number of eligible non-members will not even invite the Councilor when he hints for an invitation. I have written some of the secretaries in my district to notify the profession of their county of the day of the meeting and let me know, and I would be present at the meeting, and I would never receive any reply.

I would not wait for an invitation if I could get the secretaries to give me a list of the eligible non-members, so that I could write them to be present at the meeting.

The list of non-members sent to the Councilor by the State Secretary often contains names that are not considered eligible by the members, and the Councilor does not feel at liberty to solicit such men, and if he does he often places himself in an embarrassing position. It takes the cooperation of the county secretary for the Councilor to accomplish anything. I have made a diagnosis of the trouble in my district and find that we need better secretaries in many of the counties.

A live, active and aggressive secretary is a positive necessity in organizing and maintaining a good county medical society.

The Secretary who will not answer the Councilor's letters (and sometimes when a stamp is enclosed), will not write to the members of his own society, asking them to attend the meetings and to pay their dues. The secretary should have the hearty support and cooperation of the members. No one man can make a county society, but four or five good active men can make a better society than fifty inactive members who never attend or take any interest in their society. I hope to see the time when every secretary in the eighth district will be "out to his job," and that they will at least give the Councilor a chance to help make good societies in every county in the district.

REPORT OF COUNCILOR OF THE TENTH DISTRICT.

I. A. SHIRLEY: We cannot, for the life of us, tell just where we are at; I mean so far as the Tenth Councilor District is concerned. First, the September 15 copy of the JOURNAL, which brings with it the beautiful picture of the still prettier President, and tells just how

many members every county society has, as well as everything else known and unknown, and that imagined or guessed at, has not at this time (the day before the meeting) made its appearance. I do not pretend to surmise the why or wherefore of this unpardonable sin, whether it is for the purpose of covering up some ghost or closet skeleton, or preventing the exhumation of somebody's questionable transactions even to the point of keeping somebody or several somebodies out of a deserved penitentiary imprisonment; however, be that as it may, on account of the absence of the usual data, we are left to grope in the dark. We were told about ten days ago that the district was sixteen to the bad; this was the cause of much anguish on our part, for as you all well know the usual march of the Tenth District has always been onward and upward.

A few days ago another letter on the subject made all things clear. We were sent a list of the members for 1913, who were not members this year; a great many of the names we had never heard of much less known. With our motto of progress and the fact that ours has always been the district in a class by itself, with no other able to keep close enough to make us afraid, we inaugurated an inquiry as to the real facts of the case. The first secretary we wrote to about his four delinquents replied that one of them did actually live in the county, but had recently moved there and held membership in the county from which he came. As to the other three, they had never done any more than to pass through the county, as they certainly had never been *bona fide* residents of it. Some others I knew in other counties had not been identified with their county societies for quite a while for the sorrowful but certainly legal and all sufficient reason that they had been dead for from two to ten years.

Now, Mr. President, that is how our careful, efficient, sweet-as-a-peach secretary figures out our deficiency for the good year of 1914. But since that time we have resurrected quite a number, and with deductions for the reasons above given, I think we have our heads above water. I regret to say, that we would like to see more cooperation and brotherly love existing between brethren than is known to actually exist in some sections of our multiplied number of counties. I fear we will never live together in angelic harmony till the millenium, but it does seem to me that taking into consideration the greatness and grandness of our calling, there should at least never arise any personal feeling among our brotherhood, as when it does, it not only works to the great disadvantage of the persons immediately concerned, but reflects upon the entire professional brotherhood, for peo-

ple failing to distinguish between the good and the bad, saddle on to all physicians the sins of the few. But I want to say, Mr. President, that if we have really lost anything in qualities or numbers, we didn't intend to do it and that we will do better in the future we sincerely hope.

THE SECRETARY: It is to me considerable satisfaction to know that Dr. Shirley's district shows an actual increase, according to the annual report, of seven members, and since that time he has gotten sixteen more members back on the roll, so that the letters written him did him good, although there were some slight clerical errors in the number.

THE PRESIDENT: Reports of County Medical Societies.

BOONE COUNTY MEDICAL SOCIETY.

H. H. HAYS: The Boone County Medical Society sends greetings to the Kentucky State Medical Association and begs to report the following:

We have in our County Society all told twenty physicians, and of that number, fourteen are active members, who are in good standing as regards dues, etc., and every physician is of the regular school.

We have as honorary members a number of eminent specialists from Cincinnati, Ohio, and a few prominent practitioners from Kenton and Campbell counties who are always ready to take an active part in our program in the way of papers or letters. The discussions are very general and each physician present is especially invited to take part, and the suggestions offered are very helpful, especially from our honorary members. We meet on the evening of the third Thursday of each month, at the homes of the several members. We have had five meetings since the first of this year, and always have from ten to twenty or more present. Some of the regular meetings were postponed on account of the hot weather. I am glad to report the decided interest in our meetings, and good fellowship prevails among us, and our relations are most harmonious.

Our program is arranged the first of the year for the coming year, and each man is expected to be ready with his paper when his time came. Our members, I may say, are about as clever a bunch of men as I know.

The social features of our meetings are most delightful. Always after the scientific part of the program is completed we are invited to partake of feasts such as only Boone county can offer. The past summer we were entertained by our Cincinnati boys with a most elaborate banquet at Chester Park, which meeting was replete with all the good things of all kinds to be found by all the entertain-

ments of the park. We have all taken advantage of the bacteriological laboratory, and have found Dr. South always attentive, painstaking, polite, accurate and prompt. Too much praise cannot be given her work in our behalf.

The *JOURNAL* seems to give universal satisfaction.

CAMPBELL-KENTON COUNTY MEDICAL SOCIETY.

G. J. HERMANN: The Campbell-Kenton County Medical Society begs leave to report that the year 1914 has in many respects been its best. The meetings have at all times been well attended, especially our country meetings, held in June at Alexandria, when we had forty-five, July at Independence, fifty-two, and at the Cedars, in August, sixty.

During the year the Society Publicity Committee had thirteen public meetings; five on medical aspects of the alcohol question, four on popular errors and superstitions in medicine, two on sex hygiene, one on ventilation, and one on personal hygiene.

Through the untiring efforts of our Society, backed by the efforts of our health officers and departments of both Newport and Covington, we had the two cities pass an ordinance compelling the grocers, hucksters, etc., to screen the stores and vegetables and regulate the sale of all food stuff. Also an ordinance compelling the enclosure of all manure boxes; they have separately inspected and regulated some 1600 in the two cities, etc.

During the past year we have lost seven members, one by resignation, five by non-payment of dues, and one by moving away, but we have taken in twenty-one new members, being an increase of fourteen, making a total of 107.

During the past year by inviting the druggists to be associate members, so far eighteen have embraced the opportunity. By taking in the druggists as associate members, we believe it will work for the betterment of both professions and bring them in closer friendship.

CYRUS GRAHAM: In view of the fact that we have been unfortunate to lose one of our best practitioners, Dr. Shoemaker of Union County, a prominent member of our Association, and one who never missed a meeting when he could possibly attend it, I would like to move that James H. Letcher be appointed as a member of a Committee to write up a resolution in regard to Dr. Shoemaker and present it to the Association.

I. A. SHIRLEY: I second the motion. (Carried.)

CHRISTIAN COUNTY MEDICAL SOCIETY.

W. S. SANDBACH: I wish to report that the Christian County Medical Society, I pre-

sume, is on an average with the societies of the State. There is yet plenty work for it to do though I feel that we have accomplished some great and good work.

We now have a membership of 44 out of 52 physicians in the County, a gain of 3. We have made an effort to enroll all, but excuses being plentiful with some, none with others and one says that the "State dues are too high."

We have held twelve meetings, the third Tuesday of each month being our regular meeting day. Lowest attendance being 13 and the highest 38 with an average of 21. Have never failed in having a program and on several times not able to get through with our program on account of time. Am glad to say that the secretary rarely ever has much trouble in securing a program, so willing are the members to respond.

The new Jennie Stuart Memorial Hospital has been erected and equipped at Hopkinsville at an approximate cost of \$40,000. It is up to date in every respect, second to none in efficiency, the pride of Christian County.

Our County Board of Health under the leadership of Dr. J. H. Rice have kept a watchful eye on the health of the County, so much so that at the present time we are free from any epidemics.

With a little more personal work by our officers, the prospects are bright for a larger and better society next year.

CLARK COUNTY MEDICAL SOCIETY.

I. H. BROWNE: I have the pleasure of reporting that the Clarke County Medical Society took on new life the first of the year, and has had regular semi-monthly meetings since, at the office of some one of the members.

On the second and the fourth Friday nights we meet at some doctor's office where a paper is read by the host. Our plan was to have a joint meeting with the druggists the first meeting in the month, and a medical meeting the second. At the meetings of the druggists, the relation the druggist and the doctor bear to each other was brought out by a paper read by a doctor and a druggist. Out of these meetings the druggists and doctors have been very much benefited. The doctors have gone back to the old United States Pharmacopea and have quit prescribing proprietary medicines, and the druggists have quit counter prescribing and refilling prescriptions without orders.

The doctors take their autos in the summer months and go to the country and have meetings with their county brothers, where after the business meeting, a luncheon is served after the "Old Country Style." As the result of these meetings, a most friendly feeling ex-

isting between the druggists and the doctors of Clark County is manifested.

We have meetings with the dentists from which much benefit has been derived. In May, the eighteenth of this year, we had the misfortune of losing one of our fellow practitioners, Dr. Glenmore Combs, whom we all miss.

We have nineteen doctors out of twenty-five in good standing in our Society, with no ill feeling existing or other reasons why the other six should be out.

We have had no mal-practice suits within the last year, and if the relations now existing between the medical profession continue we feel sure we will not have any, as we all know the cause of most such suits.

The outlook for a Hospital for Winchester is more flattering than ever. We have about \$5,000.00 cash on hand, and feel assured of \$10,000.00 to \$12,000.00 in donations that we can put our hands on, and are sure that as soon as the war sears in money matters is over we will have our hospital.

The sanitary conditions of the city and county through the joint effort of the city and county boards of health are the very best.

We had last year in the City seventy-nine cases and in the county one hundred and three cases of small-pox, which were kept under good control by vaccination. We apprehend no recurrence of this epidemic.

We have had less typhoid fever this year than any year before. Four-fifths of the town have made sewer taps with the sanitary sewer or have built sanitary toilets.

The milk supply of the city has been raised from the very lowest to the very best standing.

The three county slaughter houses have been closed and a city sanitary slaughter house built instead.

The meat, groceries and food supplies are up to the standard.

CRITTENDEN COUNTY MEDICAL SOCIETY.

J. ERNEST FOX: Crittenden County reports nine members paid up this year. Only seven are in active practice in this county as one has retired and one resides in Illinois. We have only 50 per cent. of physicians in the county society.

We have not had a meeting this year. I called three or four meetings but only two or three would respond and we would adjourn to meet at another time. I wrote every physician in the county a personal letter urging them to join the Society and attend its meetings.

I see no chance to maintain a working society in this county, as almost every physician knows it all and cannot waste his valuable time listening to others who are not near

so wise. The case seems hopeless to me. Suggestions are in order.

THE DAVIESS COUNTY MEDICAL SOCIETY.

J. J. RODMAN: Number of members reported last year, seventy. Of these, two have lapsed, and three have moved from the county. Four members have been admitted, one by card, and three new, leaving sixty-nine in good standing.

The interest in the Society is not lagging. The three papers at each meeting have been good, and well discussed. Many interesting cases have been reported, and when convenient presented to the society.

The average attendance at the meetings has been forty-two and one-half members, although we have no half-way members. All are good.

FLEMING COUNTY MEDICAL SOCIETY.

J. B. O'BANNON: We have a total of twenty-five physicians in the county, twenty-three regulars and two irregulars (Homeopaths). Out of the twenty-five physicians of the county, we have enrolled on our Fleming County Society book twenty-one of the regular physicians. Of these, twenty-one are members of our Society; fifteen have paid dues in full, leaving six delinquent.

The two homeopaths advertise in the county papers, consequently that bars them from membership in our Society.

Our average attendance is about nine or ten for the year. Papers are read and cases are reported at every meeting. We meet on the third Wednesday of each month. Our Fiscal Court refused to make any appropriation for a tuberculosis hospital for the district. By request of Major Robert U. Patterson, Medical Corps, U. S. Army, we have a Committee for Red Cross work.

We have never had the honor of a visit from the Councilor of the district.

W. W. ANDERSON: If it is in order Mr. President, I would like to offer the following resolution.

WHEREAS, Dr. J. N. McCormack, so long known among us as a leader of medical organization and progress, has just undergone a successful operation, therefore, be it

RESOLVED, That we congratulate him and ourselves on the outcome and prospects and send him affectionate greetings.

(Signed) W. W. RICHMOND,
W. W. ANDERSON.

THE PRESIDENT: What will you do with this resolution?

A. S. DENTON: I move the adoption of the resolution. Seconded.

I. A. SHIRLEY: I move to amend that this resolution be sent by wire to Dr. McCormack.

The amendment was seconded and accept-

ed, and the original motion as amended was put and carried.

FRANKLIN COUNTY MEDICAL SOCIETY.

The Secretary read the following letter from Dr. U. V. Williams, of Frankfort:

Dear Mr. Secretary: Dr. J. W. Hill, our regularly elected delegate to the present session of the State Association, informs me that it will be impossible for him to attend, neither have I been able to supply by appointment a substitute. Should any member of the Franklin County Medical Society be present, consider him the appointed alternate and accord to him the privilege of the floor.

In regard to the report of our Association, you may say for us, that we are dead, seemingly beyond the hope of resurrection, not having had a quorum at any regular meeting this year. The very busiest day in the month in Frankfort and Franklin County seems to be the first Monday in each month, which is our regular day of meeting, as "Too busy to attend" is the excuse given by every doctor. The other twenty-nine days in the month seem to give them sufficient time for street gossip, politics and picture shows.

I have erected over the grave of the Franklin County Medical Association a slab containing this legend: "*Hic jacet Franklin County Medical Association; requiescat in pace.*"

Yours very respectfully,

(Signed) U. V. WILLIAMS, SECRETARY.

HARDIN COUNTY MEDICAL SOCIETY.

J. V. PREWITT: Our society is among the oldest in the State. We have a membership of twenty-seven or thirty. We meet monthly. We have a fine medical society. Everything is running along as usual, and I believe every one in the county who is eligible is a member of our County Medical Society.

HARRISON COUNTY MEDICAL SOCIETY.

L. S. GIVENS: We have had good meetings, good attendance, and excellent papers during the past year. In fact, our Society has not failed to hold a meeting since its organization in July, 1903.

Since October last, our average monthly attendance has been fifteen members, and our enrolled membership numbers twenty-two. One member lost by death, and one by removal. One was dropped for non-payment of dues. Twenty cases were reported before the Society, and several clinics held. Eighteen papers were read, and generally discussed with much interest.

We are happy and contented. We have passed through much smoking and several delightful buffet-luncheons. Our Treasurer has had some silver on his person once or twice, but never enough at one time to pull his pants off.

HENDERSON COUNTY MEDICAL SOCIETY.

A. S. DENTON: First, we report the recognition of the distinguished honor that comes to Henderson County Medical Society since our last report, when the State Association selected one of our members to deliver the oration in medicine at this 1914 meeting.

This Association will ever be glad that this address is to be given this year by Dr. W. A. Poole. Dr. Poole has been the representative of the Kentucky State Medical Association for two years on the National Legislative Committee, and is now President of the Henderson County Medical Society. He is a zealous student, a good medical society man, enjoys a large and lucrative practice, and withal, will surprise you with his youthful face and wise head. We thank you in the name of Henderson County Medical Society for thus honoring Dr. Poole and us.

Second, after the Bowling Green (1913) meeting, but before the close of last year, the crowning achievement of medical work in Henderson County was consummated. Henderson County voted a County Tuberculosis Sanatorium.

It was at the Louisville (1909) meeting of the State Association that Dr. D. O. Hancock of our County Society, as Chairman of the Anti-Tuberculosis Campaign Committee of the State Society, wrote into the report of that Committee the following:

"The object is a well-planned, up-to-date tuberculosis sanatorium in each county of the State, built, owned and managed by each county for the care and treatment of these patients and for the protection of the people from the spread of this disease."

This idea took a very effective hold on the people of our State, and after due time we have laws making these things possible. Henderson County with Christian and Fayette counties have acted in response to these laws and voted such institutions. Henderson County Fiscal Court has so far as we know complied with all requirements of this vote. The funds are provided in levy of 1914, and we hope 1915 will see the institution at work. The Henderson City Council has appropriated \$10,000.00 as a beginning for new hospital facilities for Henderson. We had a typhoid fever scare in June. Fifteen or twenty cases were estimated to have existed. The Government man and Dr. Heizer and the State milk man came to our rescue with personal health surveys and recommendations.

Henderson is to have new sewerage, better drains, and a new filter plant. Work on these is somewhat retarded because only a few more cases of fever occurred and again the people say "Wolf story." But these

things must eventually come and preventable diseases must go.

Our County Medical Society remains intact. Our dues to the State Association have been paid. The JOURNAL is received and read.

We elected officers in December, 1913, and closed that year with another of our dollar a plate banquets, which was a most enjoyable occasion. The meetings for the most part have been well attended. We do not attempt to meet during the summer months. As usual, we had our program made out for the year's work, following in the main the plan of the grade course. This we printed and used as notices of meetings.

Altogether, the influence for good by the medical profession of our county has had greater fruition than at any time in its history. More dependable men are enlisted in the work. Our men keep up with medical advance and are responsive to proper demands on their time and talents.

We have had during the year outbreaks of the more common contagious diseases, all of which have been capably and successfully isolated and controlled by our efficient county and city health officers. Situated as we are on the Ohio River just below Evansville, a city with a population of 75,000 people, it makes our exposures great, and we have been able to trace most of our epidemics to this fountainhead as the source of infection.

We have had the earnest, active co-operation of the County Board of Health and the Fiscal Court. The Fiscal Court has appropriated a small *per diem* to each member of the County Board of Health for each day of actual attendance upon the meetings of the Board, and has stimulated the members to greater effort, and the result has been regular monthly meetings with good attendance. At present, our health officers, city and county, and medical attendants at county sanitarium and jail are fairly well paid for services. We hail full time men for this character of work, more especially county health officers.

JEFFERSON COUNTY MEDICAL SOCIETY.

THE SECRETARY: I do not think we can call the next county without a feeling of pride. As great as has been the change in medical organization in the State, and remarkable as has been the difference between the relationship of doctor and doctor, now and heretofore, in no other place has there been such a marked change as in Jefferson County, which now represents a united active profession. It represents one great school, and it is that I particularly want to call your attention to at this time. The University of Louisville has as good hospital and

clinical facilities as any school in the United States. (Applause.) This hospital, constructed after the plan of that great genius, Ap. Morgan Vance, for clinical teaching, has been erected at the cost of a million dollars and more, and every student who now attends that University will have the advantage of these extraordinary clinics. The Jefferson County Medical Society has a specially constructed room for its library and meeting place in the hospital building. The medical profession has the closest support of the government of the City of Louisville and County of Jefferson, and in every way nothing so marks the progress of organization in the State as the harmony and general effectiveness of the Jefferson County Medical Society. (Applause.)

MILTON BOARD: I am not authorized to make a report for Jefferson County. I am a delegate, and we report nine delegates, which, I believe, is an increase of one over last year, being given the extra one because we have eighteen new members. As to the details, I am not familiar with them sufficiently to give you a detailed report. I wish to say, however, in confirmation of what the Secretary has said, that the medical profession of Jefferson County is a harmonious, united body, as much so as you would expect in any large city. We have our bickerings, and a few years ago we were having a good deal of trouble which grew out of the welding together of the faculties of some five or six medical schools. That has practically become a thing of the past and we are having very little trouble along that line at this time. We are now quartered as a society in the ward of the City Hospital which was turned over to us by the Board of Safety. We have a library there and that library is improving and increasing in usefulness all the time. There are but two things I would note as not being up to the standard as they should be. One is local, the other is general. The first is the serious condition of the publication known as the Jefferson County Edition of the KENTUCKY MEDICAL JOURNAL. For some reason, I am of the opinion lack of proper management, there has not been produced sufficient revenue within the last few months to support and maintain this JOURNAL, and unless something is done speedily the publication will have to be suspended, which would be a most unfortunate thing for the profession of the city and State. I hope some feasible, practical means can be adopted by the Jefferson County Medical Society so as to keep that JOURNAL alive.

The second is general, and when I say general, I do so both in my individual capacity as a physician and as a delegate, and as a medical referee for Jefferson County. I refer

to the question of fee-splitting, which is oftentimes alleged to be indulged in, and I know from personal experience where propositions have been made to me that such a thing does and can go on between the doctor out in the State and specialist within the city. It is a dishonorable practice, it is an unethical practice, a practice that is not fair, that is not straight, and should be vigorously condemned. There has not been quite enough attention paid to this matter in this State; there has not been enough attention paid to it in the columns of the KENTUCKY MEDICAL JOURNAL. I have noticed with a great deal of pride and pleasure that the INDIANA MEDICAL JOURNAL has made a crusade along that line, and I commend its action to the Editor of our JOURNAL, and the action of the Indiana State Medical Society, which I attended last year, to the delegates of this meeting, and the membership thereof.

Not a great while ago I had a suggestion made to me by a member of this Association, a direct bold proposition, of fee-splitting. I understand it is going on all the time between the specialists in the city and the doctors out in the State. The medical profession ought to be educated along that line. It is to me a clearly dishonorable, unethical act and ought to be condemned. I speak as one coming from Jefferson County, because most of the specialists are located there, and the evil is committed at that end of the line more than from any other point. Aside from that, I know nothing which will keep our society from being harmonious. We have a large membership; we have interesting scientific programs every Monday night, and I would extend to any member of the profession in the State, who happens to be in Louisville on a Monday night, to come up to the City Hospital where he will be welcome, and it will be a pleasure to us and to your advantage to attend our meetings whenever you are in the city.

J. V. PREWITT: Since Dr. Board has brought up the question of the Jefferson County issue of the KENTUCKY MEDICAL JOURNAL, I would like to know why the Jefferson County number could not be published in the State JOURNAL? I believe that its birth was due to some friction that occurred some years ago. I am not acquainted with the facts, but I think it is time for us to favor one journal to represent the profession of Kentucky. Furthermore, there is a State railway journal, and while I am not representing that society on the floor just now, I believe the proceedings should be published in one journal. I think there ought to be one society in the name of the Kentucky State Society which will take care of all of the doctors of the State,

So far as fee-splitting is concerned, to which reference was made by Dr. Board, that is quite an old joke. In my territory I have gone up against it repeatedly and have had this remark made to me a number of times: "Dr. So-and-So will do it cheaper than you will do it." The doctors in Louisville are doing it right along and are doing it all the time.

THE SECRETARY: I would suggest that the remarks made by Dr. Prewitt be referred to the Committee on JOURNAL for appropriate action.

Seconded and carried.

KNOX COUNTY MEDICAL SOCIETY.

CHARLES L. HEATH: I have to make a verbal report. We have practically all the doctors that are eligible to membership as members. There are seventeen doctors in Knox County practicing medicine, sixteen of whom are paid up members of the County and State Society. The other gentleman runs a little store and does practice as a side line.

In looking over the JOURNAL we find there are seventy-six counties in the State that have less membership than we have, thirty-six have more, and three have the same number.

We have not had a meeting this year in our Society. It is a Society that has had the reputation of being one of the best in regard to attendance and work done in the State, but this year it has lost its reputation. I am Secretary of the Society. Some gentleman said a little while ago that the Secretary of a County Society should be blamed for not having a good Society, or words to that effect. In order to clear myself, I will say that I have been Secretary before, when they had a good Society. The President and Vice President of this Society never attended its meetings before they were elected, and have never done so since. Our Society is dragging along. The medical defense privilege is said to be worth more to them than the scientific program, and if somebody could inform me how to get that out of their heads I would be very much obliged to him. I believe in the scientific side of the Society. The original motive for organizing the county and State Society, I believe, is the most important still, and if we were to develop that side of the profession better, we would have less use for medical defense.

LAUREL COUNTY MEDICAL SOCIETY.

P. E. BRYANT: My report regarding this Society will be brief. Laurel County has twenty doctors, fifteen of whom belong to the County Medical Society; but our attendance is rather poor. There is not very much

interest manifested. The Society this year has met bi-monthly, but no papers have been prepared by any of the members. We have had one paper which was prepared by a student on the subject of pellagra; it was well written, and was well received by the Society and was very instructive.

I believe we have more cases of pellagra in Laurel County than we have ever had before, and we have fewer cases of typhoid fever than I have known in the twenty years I have been practicing medicine there. The cause is better sanitation and general vaccination of the people. Our Board of Health has had frequent meetings and has endeavored to improve the sanitation of the County, and I think they have succeeded alarmingly and very much to our surprise.

I am going to promise the Kentucky State Medical Society, on behalf of our County Society, that next year we will have a better report to submit.

MONTGOMERY COUNTY MEDICAL SOCIETY.

J. F. JONES: Last week I received from Dr. I. A. Shirley, Councilor for the Tenth District, a letter to the effect that our District had gone sixteen bad this year. I am very glad that Montgomery is not in with the backsliders. Last year we had eighteen members; this year we have nineteen, not much of a gain, but every little helps.

We have had a meeting every month this year except September, when he did not have a quorum present, and have had a paper at six out of the eight meetings. There are a few of our members who do not come, and would like to see us fail to have meetings. We hope to see them do differently. Montgomery has selected J. F. Reynolds as delegate, and D. H. Bush, alternate, to be our representatives at the Newport meeting. We hope it will be a pleasant and instructive session.

LEWIS COUNTY MEDICAL SOCIETY.

J. N. WELLS: Some years ago we organized a County Society in Lewis County, and I did all I could to promote interest in the work, but two or three meetings were all we had, and there were not many in attendance at those. There has been no meeting held by the County Society for three or four years.

The only reason I had for joining the Society was that we had none of our own, I being the only member of my school in the county. However, I am a member of the Eastern, the State and the National Eclectic Medical Associations.

I do not care to become a member of another Society, as these are all I can keep up dues in.

PULASKI COUNTY MEDICAL SOCIETY.

CARL NORFLEET: There are thirty-two doctors in Pulaski County, seventeen of whom are members of the State and County Societies. We have two other members who reside in other counties, thus making nineteen on our roll. Of the fifteen non-members two have practically retired, three are homeopaths, one is our County Judge, one a boycott, and one will insult you when he is asked to become a member. The seven others may in the future become members we hope. The Secretary begs to admit that some negligence on his part has existed this year in urging prompt payment of dues. Our Society has failed this year in some respects to hold up its previous record in carrying out our yearly program. Our attendance has been very good. Several good papers have been read. Case reporting and clinics have been important features. Our Councilor has failed to visit us this year; perhaps this explains some of our shortcomings.

Medical co-operation in Pulaski is very good and improving. Some of our members are too busy to attend our meetings, some claim that they can devote their time to better advantage by reading books, journals, etc., than by attending their Society. Some are so scrupulous that they may enlighten others without remuneration. However, as a whole, we are proud of our organization and the faithful, and leave our regrets to the unfaithful.

We have one hospital, the Somerset General Hospital, a private institution, located in Somerset, which affords much accommodation to the needs of Pulaski, McCreary, Wayne and Russell counties.

Preventive medicine is a perpetual theme in Pulaski. A number of papers have been read and lectures given in schools, churches and county teachers' institutes this year by different members of our Society along the lines of school and general sanitation and prevention of disease. The general and extensive hook-worm campaign made by Dr. M. W. Steele and his able corps has wrought much good and merited and received great appreciation from the public.

Pulaski has at present about fifty cases of pellagra. There have been about seventy-five cases of small-pox in the county with two deaths this year. A few cases of typhoid fever have existed in general over the county. I am glad to report immunization is being done by quite a number of doctors throughout the county.

Whooping cough, measles and mumps visited Pulaski in more extensive and severe form than usual last spring and summer.

Quarantine is becoming more appreciated by the laity against these diseases.

The ability and personnel of the medical profession of Pulaski County, we believe, is equal to that of the average county of this State, all that is needed to make any Society a success is life and action. These requisites can be obtained by regular attendance on the State and County Societies.

OLDHAM COUNTY MEDICAL SOCIETY.

E. D. BURNETT: Since our last appearance before this august body, our Society of Oldham has had many notable things to transpire that make for progress. One doctor has moved in and out again, while still another has moved across the county line and still holds his membership with us. Personal health has been very good. All the profession has had a fairly busy year. However, complaints are heard about slow collections.

We send greetings to the profession of the State and lift our heart of thanks to the Throne from whence all blessings flow.

During the present year the following have paid into the Treasury \$3.00 for the County and State Societies: J. E. L. Harbold, W. S. Forwood, R. B. Cassady, M. J. Smiser, J. L. Quesenberry, C. N. Goldsborough, J. A. Freeman, E. D. Burnett, R. B. Pryor, J. H. Speer, C. L. Hancock and Morris Kelly—making a total of twelve paid members. We regret that four men within the confines of the County have not seen fit to become active members of the County and State Societies.

There has been an average attendance of six for the year,—fifty per cent. of the membership.

The following officers were elected in December: J. E. L. Harbold, President; R. B. Cassady, Vice-President; E. D. Burnett, Secretary-Treasurer.

C. N. Goldsborough was elected delegate, and E. D. Burnett alternate to the State Society for 1914.

During the year many interesting cases have been reported. There has been an epidemic of scarlet-fever in the County that called for heroic effort on the part of the doctors.

Among the visitors are County Judge S. E. DeHaven and County Superintendent of Schools J. W. Selth, who discussed public health questions.

We were honored at another meeting by Dr. A. D. Willmoth and Dr. B. W. Bayless, of Louisville. The former read a paper entitled "Post-operative Care," and the latter read a paper on "X-Ray Diagnosis in Fractures," and showed a number of instructive skiagraphs.

In the past year several articles from Old-

ham County have been published in our STATE JOURNAL.

The September meeting was the largest and best of the year. The program follows:—"Full Typhoid Diet," by C. N. Goldsborough; "Chronic Gastric Catarrh," by C. L. Hancock; "Endometritis," by J. A. Freeman; "Goiter, a Case Report," by J. H. Speer.

A full discussion was enjoyed.

Two events marked the high social features of our County Society life. The first was an elegant dinner in February by Dr. and Mrs. E. D. Burnett at the Park Hotel in LaGrange. The honor guests were Drs. D. S. Wilson and O. E. Block, of Louisville, and Dr. C. Z. Aud, of Cecilian. Several laymen were present.

In June a delightful reception was tendered Dr. J. H. Speer in honor of his golden jubilee. A number of ladies were present and added much elarm to the occasion. The reception was followed by a public health meeting in the LaGrange High School Auditorium.

These functions bring good cheer and cement the fraternal spirit. We recommend them.

We submit two memorials:

First, feeling the crying need of better sanitary conditions, and closer co-operation on the part of public county health officers, we urge that a plan be set in motion by this body to bring about the employment of full-time health officers in every county in Kentucky. Second, because of the ubiquitous dead beats, and because a "servant is worthy of his hire," we urge this honorable body to set in motion a central credit rating system or some definite plan whereby delinquent bills may be collected.

BOYD COUNTY MEDICAL SOCIETY.

C. K. KERCHEVAL: Number of members reported at last meeting, nineteen; number on roll to-day, twenty; number lost by death, one; number lost by removal from the State, two; new members, four. Number of meetings held, eight.

This Society is co-operating with the Boyd County Health League, and is furnishing two physicians to serve on clinics in their free dispensary two hours each Tuesday and Friday morning.

BOYLE COUNTY MEDICAL SOCIETY.

J. D. MUTTERS: We have a free dispensary for tuberculosis and physicians take their turns in donating their services to the dispensary. I do not know that they are taking cognizance of anything else except tuberculosis. I would have been pleased to have had a report of that work in Boyd County if I could obtain it, but under the circumstances, I did not have an opportuni-

ty to secure it. But as to the hospitals in our country, we are somewhat handicapped in Ashland concerning a hospital. We have a little concern there that we utilize for hospital purposes, but it can only accommodate a few patients, and we have set on foot a movement to build a \$30,000.00 hospital there. The physicians have subscribed over \$4,000.00 with that end in view and the people of the town have subscribed enough to make it over \$12,000.00. But we could not build a hospital such as we want and such as we need for \$12,000.00. We could not get along with less than \$30,000.00. For the present time, the hospital question in Ashland is at a standstill. We hope we will hear more from that in the future.

As to the remarks made by members of the Association concerning fee-splitting, I do not know that we have any of it to contend with in our County. I do not understand fee-splitting in all its bearings. Some of it, as I understand, is that a physician peddles out his cases to the surgeon who will give him the biggest portion of the fee. There is one feature about this which I think is legitimate. For instance, let us suppose we have a patient who needs an operation. The physician is not an operator himself, and he selects some one in his town who can do the operation better than he could, and he calls upon him to operate for him. Probably the attending physician will give the anesthetic, take charge of the after treatment, and so on, and a fee is charged for the whole thing. The patient understands that this fee covers the charge of the attending physician and the surgeon, and whatever agreement they make, it seems to me, is legitimate. I would like to hear from other members as to whether it is or not. I know it is done in some places that way.

LINCOLN COUNTY MEDICAL SOCIETY.

J. G. CARPENTER: The Lincoln County Medical Society still exists. The dues are paid up for the year 1914. On the second Tuesday in February last the Society met in Stanford, with a small attendance for about two hours. Behold she sleepeth, moribund, but not in *articulo mortis*; apathetic, or in a state of paresis. The exact diagnosis has not been made. The worthy Secretary, Dr. Southard, has used pen and ink and paper and telephone on divers and sundry occasions to invite, solicit and urge the brethren to attend the feast. "That all things are now ready," but the medicos outside of the town limits failed to come; yet none has married a wife, bought a piece of ground, nor five yoke of oxen. Can it be that commercialism or graft has entered the ranks of our noble profession and is keeping members from at-

tendance, destroying social, scientific, aggressive, progressive and humane side of medical society work.

The Lincoln County Medical Society has seventeen members; there are five physicians in the county who do not pay or attend the society. One is superannuated. Total twenty-three, but one of our best and truest members, Dr. John P. Barker, has been lost by death, September, 1914, leaving only twenty-two doctors in the county.

The question has been often asked, when will the Lincoln County Medical Society meet again: But echo answereth not.

In the good happy days of Drs. Hawkins, Brown, Joshua T. Wesley and Steele Bailey, when they were here among men, it was no trouble to have a large medical society attendance every two months, year in and year out, but since they have gone to better countries the bond of cohesiveness seems to have been sundered, and the yeast that leavened the whole lump has been consumed or destroyed, and our Society remains in a state of "innocuous desuetude." What is the remedy. Individually, the opsonic index is good. What would inoculations with autogenous serum do toward reviving our Society:

M'CRACKEN COUNTY MEDICAL SOCIETY.

DELIA CALDWELL: We have had a profitable and pleasant year. We have had a good meeting at every meeting night, but one, and that was the one which occurred during the annual meeting of the Southwestern Kentucky Medical Association in May. The programs have been uniformly excellent and have never failed. A new feature for us, a report of the happenings of the medical world from one meeting to the next, under the head of "Current Medical Events," has proven most instructive and enlivening.

At one meeting we had, in addition to our medical program, an address by one of our most able lawyers on "The Doctor in Our Court." Our Society went on record in favor of pending legislation recommended by the State Board, notably House Bill No. 277, in regard to granting pharmacists a license to all practicing physicians which we opposed, and the bill favoring an all-time county health offices, which we favored.

In May we had a most interesting and enlightening joint meeting with the Retail Druggists' Association, in which the best of feeling of one body to the other was freely expressed and many common problems discussed.

Our summer meetings in the county were discontinued on account of lack of interest, and we only adjourned on May 27 to meet in October.

Number belonging to the Society in 1913,

forty-three; removed from the County, four; deceased, one; discontinued practice, one; leaving a total of thirty-six. Number of 1913 members left, thirty; new members in 1914, two, reinstated, two; total, forty, which belong to the Society in 1914. Number of meetings, nine; average attendance, eleven; visitors, six.

PENDLETON COUNTY MEDICAL SOCIETY.

H. C. CLARKE: Pendleton County Medical Society has known nothing about failure from the start of the reorganization. The truth of the business is we have not needed anyone to help us. We have had but few visitors, and we attend the Society meetings because we want to. It seems to me that way, and because we can do something when we go. The social condition in our county is remarkable, in that every member in the county is friendly with every other, so far as I know. There is no offense taken when a consultation is called or demanded. There is no friction during the handling of the patient afterward by the two or the one. We have had a constant improvement in every respect, I think. We have a year-book; our subjects are gotten out and furnished to the Committee on Publication at our December meeting. We meet monthly and have an all-day meeting. These meetings furnish an opportunity to bring the doctors of Pendleton County together. They do not have a night meeting at any time. I do not think there is a medical society in the State that is superior to ours. We have nineteen members of the profession in the County, eighteen of whom are members of the Society, and the other one is not eligible at the present time. He came from another county and claims membership elsewhere, but he has had two or three years to straighten that out and has not done so. He says he sends his fee to the State Association. I do not know whether he does or not. If we had to depend upon some person from the outside to hold us up to keep splints on our shaky knees our Society would soon die. Our Society has not kept together for fear of mal-practice suits. It is not that, and yet there has been but one mal-practice suit in the County for twenty-five years, and they did not get anything from the doctor that time.

With regard to fee-splitting, it is a bad thing, but I must be excused for referring to that. Those of us in the country who call council never take a patient away from the doctor that calls us in our county. I never knew that to occur. Fee-splitting is wrong. The only time I was ever invited to split a fee with a specialist in the city is when it came from that side of the house. When I take a patient to the city for council and the

specialist gets his fee for the council, I do not think it is fair for him to take my patient. But it is an exception rather than the rule when they do it. I think what is sauce for the goose is sauce for the gander. The thing ought to be fair.

I wish I had a written report for my county, but I forgot about it. I do not know of anything else I can say other than that we are harmonious, and we have better members or doctors there now than we had eight years ago. We are better diagnosticians and better to one another, and therefore better to our patients.

With regard to the health campaign, while it formerly had a small per cent. of infection, it was not lacking in enthusiasm, and it has left its impression upon the people generally. There are more questions being asked since that time and more specimens being sent away. It is true, they do not all find their way to Bowling Green, but a great many of them find their way to Cincinnati.

We had a visit from Dr. Shirley. We were glad to see him, and we treated him well. We sent him away with a good taste in his mouth.

SHELBY COUNTY MEDICAL SOCIETY.

S. L. BEARD: We have twenty-six doctors, and every physician in the county practicing medicine is a member of the society. We have nine meetings a year, with a good attendance. The health campaign was good. We have two per cent. infection.

THE SECRETARY: I have several accounts I would like to present. These have been approved by the Council and are recommended to the Association for payment. These accounts are as follows:

D. M. Griffith, Councilor	\$12.20
Dunning S. Wilson, Councilor	14.10
Mayme Sullivan, expense to Newport....	24.80
W. A. Poole, expenses Chicago	40.00
Young & Carl, photograph	1.00
Geo. R. Mayo, Accountant.....	\$50.00
American Medical Association, photo	
graph of Dr. Ellis	35.00
I. A. Shirley, Councilor	7.25
A. T. McCormack, expenses Newport....	12.00
Wm. Haben, carpenter	9.00
R. Lee Bird, Treasurer, rent meeting	
places	100.00
Reis Carpet Cleaning Works, exhibit	
tables	7.50
Fiseher Bros. Co., to electric wiring ...	10.50
R. C. McChord, Councilor	12.60
L. H. South, expenses Newport	20.00
W. B. McClure, expenses incident to	
Newport meeting	23.00
John J. Moren, expenses Medico-Le-	
gal Committee	4.80

Clyde Howell, expense Newport	19.70
S. W. Bassett Co., Newport Business	95.00
Fordyce Mills Co., to watchmen and lumber	12.00
Cyrus Graham	20.34

It was moved and seconded that these accounts be paid. Carried.

THE SECRETARY: I would like to offer an amendment to the By-Laws by adding to Chapter 1, Section 1, the words "Provided no physician shall be eligible to membership who is guilty of any division of fees without the knowledge of the patient or patient's family."

This should be referred to the Committee on Constitution and By-Laws.

A. S. DENTON: Inasmuch as the representatives of certain counties have not been able to get here and make their reports this afternoon, I move they be permitted to hand their reports to the Secretary or the stenographer, and that they be incorporated in the minutes of the proceedings.

Seconded.

H. H. HAYS: I move that our State Secretary communicate with the secretaries of county societies and ask them to make some report, in order that it may be embodied in the report of the delegates from the different societies.

The amendment was seconded, accepted by Dr. Denton, and the original motion as amended was put and carried.

W. W. ANDERSON: I desire to make a brief report for the Committee on Program and Entertainment.

I will call your attention to the meeting tomorrow morning which will begin at nine o'clock. Dr. J. N. Hurty, of Indiana, who is on the program for the second day, will read his paper on the first day. Dr. Hurty is the State Health Officer of Indiana. In a social way there are two or three things I desire to call your attention to. One is to leave word at the registration desk as to the ladies you have with you and where they may be found, in order that they may take part in the entertainment that has been set aside for the ladies.

To-morrow afternoon, Wednesday, those of you who desire may visit the Wiedman Brewery, which will be open to inspection. This is probably the most remarkable and complete plant of its kind you will ever have the opportunity of seeing. Refreshments will be served.

The Campbell-Kenton Society will entertain you and the visiting ladies with a boat ride on Thursday afternoon. There will be a trip up the river. Refreshments will be served on the boat.

As there was no further business to some

before the meeting at this time, on motion of Dr. Richmond, the House of Delegates adjourned subject to the call of the President.

THURSDAY, SEPTEMBER 24.—SECOND MEETING OF THE HOUSE OF DELEGATES.

The House of Delegates met at 4:30 P. M., and was called to order by the President.

The Chairman of the Council announced that the President, Dr. Ellis, was unable to be present on account of illness; that the President-designate, Dr. Kinnaird, was also absent, and that the other vice-presidents were absent; and that the Council had elected Dr. John J. Moren, Louisville, as President for the current year, and this action, upon motion was unanimously approved and Dr. Moren was declared elected.

The Secretary called the roll and announced a quorum present.

THE PRESIDENT: The first business is the President's Address to the County Secretaries, by Dr. A. C. L. Percefull.

A. C. L. PERCEFULL: The meeting of the County Secretaries was set for Tuesday evening at 8 o'clock, but for some reason or other it was not held. I had a short address prepared for that meeting, but as you know, when the time goes by we put these things out of our mind. We expected to have a good meeting, and if that meeting had been held I should have delivered a short address. This is not a meeting of the County Secretaries, but of the House of Delegates, and therefore I have nothing further to say at this time.

THE PRESIDENT: Report of the Committee on JOURNAL, R. L. Bird, Chairman.

R. L. BIRD: I have not been able to get the other members of the Committee together, therefore I have no report. I would prefer to make this report later on. The work cannot be improved in any way. We do not find any fault with the JOURNAL. If there is any fault to be found at all, it is that we do not always get the JOURNAL promptly. I believe I have nothing further to report at this time.

THE PRESIDENT: Are there any suggestions or criticisms to be made in reference to the JOURNAL?

THE SECRETARY: If you will permit me, Mr. President, I will say that we have one serious matter in connection with the JOURNAL that I desire to bring before you, and that is from the best county medical societies we are not getting the minutes and the papers that are read for publication in the JOURNAL, and the JOURNAL cannot be made better without getting the best papers from the best societies. As an example, if you will look down the list in the JOURNAL in the Business Manager's report, you will find the best

societies that meet regularly have had no minutes published in the JOURNAL and papers published in proportion to the number of meetings they have held. This is particularly true of Fayette County Medical Society and the Campbell-Kenton Medical Society. I know the kind of meetings they hold and are holding; they are among the best societies in the State, and we ought to have the minutes for publication. Our JOURNAL is not like most medical journals. It is unique. It has not an editorial staff in the sense that the *Courier-Journal* or the *Journal of the American Medical Association* has, because all we do is to publish in the JOURNAL and print the things that are written by the members of the profession of the State. For eight years, there has not been an article good, bad or indifferent, or a resolution or motion or suggestion by any doctor in Kentucky that has come to the office that has not been printed in the JOURNAL. The management of the JOURNAL would like to appeal to you to furnish these articles and make it the best journal that can possibly be published. Send in all articles that you think are worthy of publication. I do not mean that every article read before every county society ought to be published. We frequently publish an article that should not be printed, but all the best ones should be printed, and I beg of you that you send in the best articles for publication. Having looked into this matter carefully for a number of years, I will say that many a young practitioner writes his first article which is published in the JOURNAL, and it may be the first step toward writing. Many of the best essays or articles are read widely, although the men who write them are timid in starting. These articles should be written from the wealth of a man's experience, as articles that are taken from text-books do not do very much good, and they are hardly worth printing in the JOURNAL because they can be read in the text-books. We beg of the county societies to send in all their minutes, good, bad, or indifferent, and as many of the papers as they think are worthy of publication.

MILTON BOARD: At a meeting of the House of Delegates Tuesday afternoon, I made a very imperfect report to this body concerning the Jefferson County Medical Society, the only kind I was prepared to make on account of not being familiar with the details. Dr. Simpson is here this afternoon, and I would suggest that it would be of benefit to the House of Delegates for him to make a report and have the matter discussed here.

VIRGIL E. SIMPSON: I do not like to talk about an embarrassing situation. I fancy Dr. Board has stated to the House of Delegates all the essentials connected with the

publication of the mid-monthly issue of the State JOURNAL, together with the fact of its expense, and the length of time it has been published.

Many of you are doubtless familiar with the contract that was entered into by the Jefferson County Medical Society and the Judicial Council of the State Association in 1909. The JOURNAL began its publication April 15th of the same year, and up to the last issue it has been published without missing a single issue. You will also recall that under the terms of agreement with the Jefferson County Medical Society entered into by the State Association through its Council, the expense dependent upon the publication of the Jefferson County number was to be met through the efforts of the Jefferson County Medical Society. It was decided to defray the expenses of that publication by and through its advertising pages. That was done successfully until the year 1913, when through a series of circumstances the Jefferson County Medical Society's income from advertising failed to liquidate its obligations to the publishers for the publication of this JOURNAL.

At a meeting of the Council at Bowling Green last year this question was discussed, and it was decided as I understand, by the Council at that time that they did us the courtesy and kindness of saying that the Jefferson County number was of such importance to the profession to justify an expenditure on the part of the State Association out of its funds to help us defray the cost of the publication for the year 1913, warning us, however, following such gratuitous contribution on their part that we must meet our expenses in the future. The Jefferson County number of the JOURNAL did not appear in January, February or March, because at that time we had the matter under discussion as to whether or not we should continue its publication. Another effort was made to keep the JOURNAL alive and to adopt a different plan for the purpose of securing advertising contracts by employing an advertising agency doing business in Louisville, this agency to secure advertising matter for other journals and had been doing so successfully; this firm was employed by the Jefferson County Medical Society to pay a definite percentage based on advertising contracts secured. Our obligation in this respect has been met. All contracts turned over to us by the firm of advertising agents have been acted upon by our committee and the commissions have been paid out of the society's treasury. There have not been enough contracts secured to date to justify the continuation of the Jefferson County number for the remainder of this year.

A letter was sent to the Jefferson County

Medical Society by your Secretary, making an inquiry as to its purpose to meet the obligations. This letter was read last Monday night, at the meeting, and the matter was discussed in a rather hurried fashion. It was decided at that meeting that the delegates representing the Jefferson County Medical Society, should confer with the Council at the annual meeting at Newport, discussing with the Council the advisability of some new way or means of perpetuating the JOURNAL. The Jefferson County Medical Society in Louisville has not decided as an organization as to what steps it will take, whether or not it will decide to adopt the proposition made to it last Monday night to discontinue the publication, to turn over to the State JOURNAL, the regular issue, and allow the regular issue to fulfill our contracts in the way of publishing the advertisements of the Louisville firms that have been secured and collect the proceeds therefrom to apply to whatever indebtedness they may have incurred to this date. However that may be, the Jefferson County Medical Society has not officially taken action as to what course it will pursue in the future.

This matter was brought before the Society not to worry nor burden you with our financial difficulty in meeting the expenses attendant upon such a publication, but rather to let you understand in a heart to heart talk why, if we should decide to continue its publication, it has been done. We feel that the Jefferson County number has been of some use and benefit to the profession of the State. It has been of great benefit to you, granting that our JOURNAL had not been born, as it were, and that our articles would have appeared in the regular issue and you would have had an opportunity of reading such articles as possessed some merit, written by Jefferson County Society men. You must admit, as was stated to us by the regular issue that the time had come when the appearance of papers in the State JOURNAL had grown to such an extent, and there was such a demand made on it for space, it was an absolute impossibility for the State JOURNAL to print within anything like a reasonable time limit the articles you and I might read before the respective county medical societies. For instance, a paper written and read before the Campbell-Kenton County Society in the month of June would not be published before December or January the following year on account of a lack of space; that their income did not justify in increasing the number of reading pages and so we could not reasonably expect an early publication of papers read before the Jefferson County Medical Society, unless that society provided a medium for its own material. Aside from that, there were articles that came from Jefferson County that were

interesting. There is also a selfish interest, one might say, in the publication of the Jefferson County issue of the JOURNAL, in that it allowed papers read before the State Association to appear earlier than they otherwise would. If the Jefferson County number of the JOURNAL had not been originated, we would have been entitled to space in the JOURNAL, on account of our membership being larger, our meetings more frequent and larger, and you would have suffered in proportion by the appearance of your papers. We provided a medium for our papers and allowed the regular issues to take care of themselves.

We would regret very much if we are obliged to discontinue its publication and fall back on the old scheme and allow the regular issue to take care of the scientific matter of the State. If we are obliged to take back a single issue with the present outlook for its continuance, it will come to the point of somebody being authorized by the Kentucky State Medical Association to sit in judgment upon the merits of papers to make their appearance from time to time in the JOURNAL, and those articles that are bad or indifferent will not see the light of day if read in the county societies.

Mr. President and gentlemen, I can say nothing more except to repeat what I have said before to the Jefferson County Medical Society and what I have said to the House of Delegates at former meetings. One of the reasons for the approach to the discontinuance of the publication of the Jefferson County issue rests on the fact that the advertising business firms claim that they do not get enough business from the doctors of this State to pay for space to advertise their wares. In other words, these advertisers have not met with the support to which they were entitled. That is true. Not only have the doctors in Louisville failed to patronize the advertisers in our issue of the JOURNAL, but it is equally true with reference to those of you who go to Louisville to make your purchases. If you expect the Jefferson County JOURNAL to live, it must be kept alive through an advertising medium, and unless each and every man feels other things being equal, it is his obligation to patronize this or that firm, we will never get enough business to pay for it. If you do not do that, you cannot expect any firm to renew its contract with the JOURNAL. Advertising firms have connected with them cold hearted, cold headed business men, who are not likely to make contributions annually for the maintenance of a journal in which they have no interest. If you do not make their advertisements worth while, you cannot expect them to continue them, and the class of business we can draw from is limited. Drug

manufacturers and instrument makers reap a benefit from advertising, and certain institutions of various sorts may profit from advertising in the JOURNAL to some extent, but what good would it do the large clothing firms in Louisville to advertise in the JOURNAL unless they increased their annual sales through the patronage of members of the profession? And the same is true of every other business, not only as it pertains to the Jefferson County issue of the JOURNAL, but the regular issue.

This matter will come up before the Jefferson County Medical Society again, when we will debate the means of its livelihood. If it dies, we will send you a notice of its death, and condolences will be in order.

I think it is understood by the House of Delegates that the Jefferson County Medical Society feels the publication of this JOURNAL to date is our debt, and that we will provide funds to defray whatever indebtedness there may have been. This will be done by an appropriation of the society's fund, or as I suggested a moment ago, by turning over for the regular issues of the JOURNAL the contracts secured that are as yet unexpired.

MILTON BOARD: I would like to ask a question. In making up the statement of deficit you have estimated the expense of the JOURNAL at \$2,400.00 for twelve months. Should or should not credit be given for the three months the JOURNAL was not published?

THE SECRETARY: It was not published for two months, February and March. No credit was given for that. The income for those two months was collected and applied as a part of the income from advertising in the regular issue of the JOURNAL and the papers the same. This year about one-third of the papers published in the Jefferson County Issue of the JOURNAL were contributed by the rest of the State and some of the papers by Jefferson County men.

MILTON BOARD: You did not understand my question exactly. I want to know whether the JOURNAL was subject to the same expense during the two months the Jefferson County number was not published? When this account comes to be audited, will it be fair for the Jefferson County Society to pay for this?

THE SECRETARY: They will be charged with these two months. There will be credit given for publishing advertising and published matter for the same two months.

MILTON BOARD: That point came up last night.

THE SECRETARY: That comes in the audit, of course. Dr. Simpson is familiar with the work of the JOURNAL because he is responsible for whatever success and merit the Jefferson County number has attained, and he touched a vital point and covered it

completely when he said that we did not have enough space in the regular issue of the JOURNAL. At the time the Jefferson County Medical Society number began, we started to publish all articles that came to us. Sometime later we formulated the plan of dividing the pages of the JOURNAL in proportion to the membership, so that county societies were given so many pages in the JOURNAL. At that time the Jefferson County issue would only have some twelve to fourteen pages in each issue. It takes an average of twenty-seven pages to publish the proceedings of the Jefferson County Society. Many of you will remember the proceedings of the Jefferson County Society were set up in nonpariel, so that we could crowd as much matter into as small a compass as possible, and the proceedings did not appear in anything like the form that is suitable for such a society whose material is of great value to the profession of the State.

From a personal standpoint, having read every article in it twice, that is, reading it in one form or another, either in galley-proof or copy, I do not hesitate to say that it has been a liberal and constant post-graduate course, and I know from what I have heard the doctors of the State say, it has been the same to many of them. There are many physicians in the State who read every article in the Jefferson County Society number. We have subscribers from other states on account of that number, and it is a compliment to the JOURNAL that we cannot afford to lose sight of.

In case the Jefferson County number is discontinued, we will have almost the same problem to contend with. It will not decrease the cost of publication of the JOURNAL, if we publish the same number of reading pages as at present, but it will put the burden on us instead of distributing it and having the Jefferson County Society carry its proportion. It will take a good deal of energy and even then a great many excellent articles must be omitted to enable us to publish as good a journal as now. What we would like to do would be to make an attempt with the assistance of the effective membership of the society, and we have one of the best state societies to be found anywhere, to take on this burden and see if enough men cannot make up their minds to assist in the distribution of it. Personally, I will gladly contribute \$100 to the continuation of the Jefferson County number for five or even ten years. I think it is worth that to me personally, but it is not absolutely necessary for me to contribute \$100.00 or Dr. Simpson. If every doctor in Louisville would buy three collars a year from a well known firm there when advertising in the JOURNAL, thus enabling them

to pay the cost of that advertisement, you could not get their advertisement out of the JOURNAL to save your neck. If you go to other dealers that advertise with us from time to time, every one will advertise for two years. If any three doctors would buy an extra suit of clothes from a tailor I venture to say that the firm would publish half a page advertisement in the JOURNAL for a year and keep it there as long as these doctors continue to buy from them. That applies to all doctors in the State. In this section of the State practically every doctor buys certain wares from Max Woche and Son. When they ceased advertising every single doctor went on buying. They went on exactly in the same quiet, gentle way supporting the Max Woche and Son. We cannot get advertising from anybody unless we patronize the advertisers. Take, for instance, the advertising of medical books. Saunders' representative visits certain county societies and he sells every doctor in the county a book who wants one. On the other hand, if a salesman for A— and Company tries to sell books they will not take them because that firm does not advertise in the JOURNAL. When A—'s man visits the Campbell-Kenton County Society, the members will tell him they do not buy books from him because his firm does not advertise in the JOURNAL, and so he does not go there any more. They will buy books from the Saunders representative because that firm advertises in the JOURNAL. The same thing applies to sanatoria. We have one of the best lists of sanatoria, and patients can safely patronize the sanatoria that are advertised in the JOURNAL. In that respect our position is absolutely unique. You can buy anything that is advertised in the JOURNAL with the assurance that there is no deception about it. The Kentucky State Medical Association will back any advertisement that appears in its JOURNAL and pay any loss you sustain. If you bring a patient to any sanatorium advertised in the JOURNAL and it is not in accordance with the advertisement, we will stand the loss. It costs a tremendous amount of advertising to do that. We charge more on account of advertising for them. The important thing is, if the Jefferson County number should be discontinued, it does not lighten the burden of the State Association one solitary bit, unless we return to the old plan and only allow the Jefferson County Society ten or twelve pages in each issue, which no one wants to do. We have got to continue to publish it. Shall the profession of Kentucky take the first backward step, after eight years continuous publication of every article that has been read before the Jefferson County Medical Society, and take out a certain percentage of articles and only publish those worthy of the highest

standing or merit? The objection to that is twofold. Many good articles are written and published in the JOURNAL at present which would not have been published four years ago on account of their poor quality. My idea is that the Kentucky State Medical Association is not an organization solely for the diffusion of scientific knowledge, but an organization to give the people of Kentucky better doctors, and every single one of us should be a benefit to each of the others, and it is our duty and pleasure to share it with them, and every man should strive to build up and weld the whole profession in that sort of way. That is the motive which actuates every man that is interested in the publication of this JOURNAL. There is no other reason for doing it. I want it understood, that whatever else we do, we should make up our minds regardless of how it is published, and make whatever sacrifices are necessary. *We must do it.* We are not taking any backward steps in the publication of the JOURNAL or in the conduct of the Medico-Legal Committee. We are going ahead and are going to do better this year than we did last, and if it takes some sweat and swearing let us sweat and swear.

A. C. L. PERCEFUL: I want to ask one or two questions. You stated, Dr. McCormack, that without the Jefferson County Number, the cost of publishing the JOURNAL would be just about the same.

THE SECRETARY: Yes, just about the same. The addition of the advertising pages is extra. Of course the cost would be decreased if we publish fewer pages.

A. C. L. PERCEFUL: Does any other county society contribute toward publishing the JOURNAL?

THE SECRETARY: Not except through their dues.

A. C. L. PERCEFUL: You say it costs about \$225.00 to publish each issue of the JOURNAL, and when papers are published in the regular issue of the JOURNAL the cost of publication is about the same. If no other county society contributes anything extra for the publication of their papers why cannot the State Association come to the rescue of the Jefferson County Society and help it bear some of the expense and we agree to bear the rest?

THE SECRETARY: We are willing to do anything that is reasonable.

A. C. L. PERCEFUL: Heretofore the whole cost has been charged to the Jefferson County Society for publishing its own papers, the only county society paying anything extra.

THE SECRETARY: That is true.

A. C. L. PERCEFUL: Why cannot this arrangement be made with the State Associ-

ation, that it will pay a part of the expense, and let us make up the rest of the expense by the advertisements we get. It seems to me, that would be an amicable arrangement. If no other county society pays, why should Jefferson County pay the whole expense of publishing its own papers?

MILTON BOARD: I want to say a word as a country doctor, although I happen to live in the city now. It is true, as Dr. Perciful says, Jefferson County is the only county in the State where the JOURNAL is utilized for the express purpose of publishing the county society's papers. It is also true, with the exception of the last year, when an appropriation was made by the State Association generously, that the sole cost of the publication of the Jefferson County edition has been charged up to the Jefferson County Society. It is also true that the profession as a whole get marked benefit from the publication of these papers. The JOURNAL itself is relieved of the expense of that issue. There is one point that has been overlooked, and that is the specialists of Louisville particularly, and when I say specialists, I do not mean surgeons, I mean men in the City of Louisville who are getting business from the country doctor, conducting sanitariums, treating nervous diseases, and doing surgery, etc. They are using the avenue of this JOURNAL as a counter on which to display their wares to the country doctor, and it is of inestimable value to them, much more than to anybody else. I do not know that that point has been considered carefully, and whether this society should not through its delegated body assist some. It seems to me nothing but fair that the chief burden should fall on the people who are the chief beneficiaries, that is, those having membership in the Jefferson County Society. I do believe this whole matter can be adjusted if a committee is appointed, unless such a committee exists, from this body, of which the Secretary and Editor of the JOURNAL should be chairman, or the Business Manager, to confer with a similar committee from the Jefferson County Medical Society and try to put this whole thing on a permanent business basis. I would make such a motion as that.

THE SECRETARY: There is such a committee, that committee having been appointed by the Council.

MILTON BOARD: That is all right.

J. W. KINCAID: I think it would be a distinct loss to the whole profession of the state if we did not have the contributions of the Jefferson County Society brought to our attention regularly and promptly. These contributions are of a high order, and are of great merit and value, and I am quite sure we all enjoy them and are benefited by reading them. It seems to me the State Associa-

tion can avail itself of that material through the regular issue of the JOURNAL. Reference has been made to the point that the expense of publishing the JOURNAL was \$165.00 and the over-head expenses \$40.00 odd. It would not cost much more to mail a JOURNAL once a month through the Louisville department or the Jefferson County department of fifteen or twenty pages, certainly not as much as it would cost for mailing two separate publications. I think that would be one way of getting around it. I do not believe it is just to tax the Jefferson County Society for the entire cost of publishing this JOURNAL because we all really do benefit by it. Dr. Board made a true statement when he said it afforded a medium for some of the men in Louisville to display their wares, but not all men in the Jefferson County Medical Society are specialists, not by any manner of means. I do not suppose of your membership more than fifteen per cent. are benefited by articles written by specialists that appear in the JOURNAL. Then why should the other eighty-five per cent. be taxed for it? They can get additional benefit by attending the meetings, if they do not see the JOURNAL, whereas those who live out of the State have to get the JOURNAL or get the articles in the form of reprints from some other journal. The best solution would be to enlarge the JOURNAL, give the Jefferson County Society so many pages to fill each month, and let that society pay as much of the cost as it can. If she cannot, let this Association pay it. It simply amounts to this: if there is not enough money or material for publication in any issue of the JOURNAL free, you have to buy it. We have no paid editorial writers. Our Secretary writes editorials as a part of his work and gets, you might say, nothing extra for it. If there is not enough material coming in, and it is not contributed free, we must buy it, and rather than buy such material why not contribute something to the Jefferson County department of the JOURNAL and have it published once a month.

THE PRESIDENT: We would like to have a report from the Committee on Legislation and Public Policy, Dr. C. Z. Aud, Chairman.

THE SECRETARY: Dr. Aud asked me to make the report for his committee. It is unnecessary to review the work done before the Legislature at the last session. Dr. Aud asked that each member of the House of Delegates consider himself a committee to know whether his representative and senators at the next session of the Legislature and sufficiently informed to be able to support and favor legislation leading to the appointment of a full-time health officer. Half of the senators are already elected, the other half of them

are to be elected. The senate will be the crucial point, as at the last session three members defeated the bill. There were twenty-eight votes ready to be cast for it, and yet it was defeated. An attempt was made to have it called. There were two senators who were said to favor the bill, and yet both assisted in side-tracking it. It is an important question as to what we are going to do next year. Are you going to see that enough doctors are members of the General Assembly to be able to wield some influence in that body? Has your county society done any work or is it doing any work toward exerting its influence on and getting the support of members of the Legislature? A member from the county of Henderson, a young man, said that no one had mentioned the matter to him and he voted against it. He was a splendid young man, sent to the Legislature from Henderson. On the contrary Senator Marshall, from the same county said a number of physicians had spoken to him and he heartily favored and said he would support the bill. That is the attitude of every member of the Legislature that was there, namely, they would vote for the bill if the profession told them why and how. They voted against it because the profession did nothing.

I would like Dr. Board to discuss this subject. There should be four first class doctors in the senate, and twelve or fifteen members in the House.

MILTON BOARD: I shall not say anything concerning the health officer's bill because I cannot add anything. I do want to call the attention of the doctors here present to one or two things because it will be the last opportunity before the next State primary to do so. The Senate of Kentucky is made up of thirty-eight members, nineteen holdovers, with the possibility of one or two vacancies. Nineteen are to be selected next August. There are one hundred members of the lower house to be selected next August. There are nominated in the State primary held under the law, Republicans and Democrats being nominated on the same day and at the same place, so that it behooves every doctor in this body to get busy and keep busy and see that our friends go there, and particularly see that our enemies do not go there. I know as well as any man in this House perhaps how much the country doctor can do in the political line when he makes up his mind to do it. To illustrate: a senator from my district in Louisville was with us on every proposition, no matter what it was. But one day there turned up a man in another district in Louisville, who introduced a bill forbidding a physician or dentist from carrying either automobile or malpractice liability. That bill passed a Committee of the Senate and in

fact had virtually passed the Committee of the House because no attention had been paid to it. You can see at once how vicious it was. Dr. Simpson went to Frankfort and succeeded in a short time in killing that bad bill. Such things as that occur all the time; they occur all over the State. Time and again I have been there trying to get some fellow to do something for the profession or to keep him from doing something against some matter of vital importance to the medical profession and people, and I could not reach him. Dr. McCormack could not reach him. Dr. McChord could have done it if he had commenced in time if from his county. I want to impress upon you the importance of seeing that our friends are up there and that our enemies are not. When our profession moves as an organized body we can do some business, but you must have the right men. You cannot expect us to do it after we get there because it is too late.

VIRGIL E. SIMPSON: The credit, if any, is due to the Committee of the Jefferson County Society as a society for killing that anti-automobile bill. That society defrayed the expenses of our going and taking the matter up.

W. A. POOLE: Regarding our Senator and Representative. I am quite sure Dr. Graham and Dr. Denton brought the same influence to bear on our Representative that they did on our Senator, and I had some assurance he would favor and work for the bill. Our Representative is a young man, not accustomed to the strenuous life of a legislator and he forgot himself.

CYRUS GRAHAM: I asked our Representative to vote for this bill, as did also my colleague, but the young man, not accustomed to being in the House of Representatives probably forgot to attend to his duty. But I want to assure you, gentlemen, that there has never been a representative from Henderson county, since I have been a resident of that county, that I have not asked him at various times and mentioned the fact to him in a casual way about certain pending legislation. I know a mistake was made at the last session of the Legislature because some members wanted things passed. They wrote letters to the doctors and were afraid of some fellows in Frankfort as though they were snakes. They were afraid to be seen in the same company with doctors because they wanted votes.

John J. Moren, of Louisville, presented the report of the Medico-Legal Committee.

On motion, the report was accepted and placed on file.

It was moved that the Society extend a vote of thanks to Dr. Moren for the excellent work he had done along medico-legal lines.

Seconded and carried.

VIRGIL E. SIMPSON, Louisville, presented the Report of the Reference Committee on Propaganda and Reform, in the absence of the members of that Committee, as follows:

Legitimate business sanely administered and honestly conducted, has and merits the protection of the law of the land, and the privilege of transacting that business and adopting proper plans of publicity. Illegitimate business has no rights legally and rarely morally. Over these two fundamental principles of political economy there can be no point of issue or dispute among right thinking men and women.

That a business can be at once legitimate and improper is both true and regrettable. Rectification of spirituous alcohols is legalized under Federal Laws; that it is improper no student of pharmacology will deny.

The concoction and sale of proprietary medicines is legalized business; its nefariousness is maintained by those most competent to know and the enlightenment of possible users is logically a part of the business of those best prepared to know. Hence the activity of the medical profession in the exposure of medical fraud.

So long as the American medical profession confines itself to isolated, sporadic occasional warnings, resolutions and whereases, the great proprietary medical interests either ignore or indulge them. But when organized medicine embodied in the American Medical Association, began its campaign of publicity of facts damnable to proprietary interests, it became at once the object of abuse, villification and misrepresentation. Not satisfied with efforts to detract from the usefulness and importance of the propaganda of the organized American Medical Association and profession, legal procedure has been resorted to.

Believing in the ultimate triumph of truth and justice, and conscious of individual and professional sincerity of motive and righteousness of cause, the House of Delegates of the Kentucky State Medical Association pledges itself and calls upon the entire profession of the State to unceasingly and fearlessly continue its support of every measure illuminating the operations of a business we believe to be inimical to public health and welfare.

THE PRESIDENT: What will you do with this report?

W. W. RICHMOND: I move the report be adopted.

Seconded and carried.

The Secretary read the following memorial on Dr. Shoemaker:

It is befitting that we should at this annual gathering note in some formal way the absence—the first time for many, many years—

of the society's faithful friend, the late Dr. Thomas J. Shoemaker, of Morganfield.

Dr. Shoemaker left his sickroom to attend our last year's meeting in Bowling Green, and after reaching there was unable to be present at a single session of the Society or at any of the social functions.

After receiving his M. D. degree from the University of Louisville, he went direct to Union County, where he remained continuously in the practice of medicine until his death. He was a popular man, had a large circle of friends and clients by whom he was much beloved, and his field of labor extended not only over his entire county, but a portion of the counties adjoining. He was local surgeon for the Illinois Central Railroad, Medical Referee for his County and Chairman of the County Board of Health, taking an active interest in not only all that pertained to the good of his profession, but to the welfare of his community. It was he who took the initiative in organizing the Ohio Valley Medical Society, never missed a meeting, and was recognized by all as its father.

This noble, large-hearted, earnest, loving, untiring, big-bodied fellow-worker, after seventy-four years of pilgrimage and many months of illness, died in full faith and works surrounded by his family.

(Signed)

JAMES H. LETCHER,
CYRUS GRAHAM.

On motion, the report was accepted.

As there was no further business to come before the meeting at this time, the House of Delegates then, on motion, adjourned until 8:30 A. M., Friday.

SEPTEMBER 25, 1914.—THIRD MEETING.

The House of Delegates met at 8:30 A. M. and was called to order by the President.

The Secretary called the roll and announced a quorum present.

THE PRESIDENT: The first order of business is the election of officers, and the first officer to be elected is President. Nominations are to be made from the floor and are now in order.

W. B. McCLURE: Mr. President and Members of the House of Delegates: Without any attempt at fulsome flattery or rhetoric, I want in as plain language as I can express to put in nomination for the position of President, Dr. J. W. Kincaid, of Catlettsburg. He has a record which you all know, which stands for itself. He is one of the most arduous, earnest members that this Association has ever had, and if it be in order, I move that his nomination be made by acclamation, and that the Secretary be instructed to cast the ballot of the Association for his election.

W. W. RICHMOND: "I second the motion." (Carried.)

The Secretary cast a ballot as instructed and Dr. Kincaid was declared duly elected President.

W. B. McCLURE: I move that a committee be appointed to escort the President-Elect to the platform.

Seconded and carried.

THE PRESIDENT: I will appoint Drs. McClure, McChord and Lock to escort Dr. Kincaid to the platform.

W. B. McCLURE: In presenting Dr. Kincaid, I want to say to him and to you, that this is the first time in the history of this Association that the Presidency has gone to any gentleman without a contest. (Applause.)

J. W. KINCAID, in accepting the Presidency, said: Gentlemen of the House of Delegates and Friends, because I know I may call you friends by reason of this expression of your friendship and faith in me by elevating me to this high office of the Presidency of the Kentucky State Medical Association. There is no deliberative body in Kentucky I feel that exceeds the Kentucky State Medical Association, and when its House of Delegates, speaking for it, confers an honor of election of President of this Association it is a distinction of which any medical man should feel proud really beyond means of expression. I hardly know why you have been so charitable in this present instance because you certainly have been indulgent, and this measure of your faith in me I can say is only exceeded by my intention to endeavor to live up to the high standard of the men who have filled the office before me and to serve you to the best of my ability. (Applause.)

THE PRESIDENT: Nominations for First Vice-Presidents are in order.

MILTON BOARD: I have in mind a physician of Western Kentucky, a member of the House of Delegates for a long time, a health officer of his County, an aggressive and progressive noble physician, and a high class gentleman. I refer to Dr. F. G. LaRue, of Smithland, and I would nominate him for First Vice-President.

G. G. DAUGHERTY: I move that nominations be closed and the Secretary be instructed to cast one ballot for Dr. LaRue.

Seconded and carried.

The Secretary cast the ballot as instructed, and Dr. LaRue was declared duly elected First Vice President.

THE PRESIDENT: Nominations are in order for Second Vice-President.

J. E. WELLS: I want to place in nomination for Second Vice-President a man who has always been present at every meeting I have attended, and I have been attending the meetings of this Association for twenty-five years. This man makes great sacrifices in

coming here. I take great pleasure in nominating Charles L. Heath, of Lindsay.

THE SECRETARY: I move that the rules be suspended and that Dr. Heath be elected by a rising vote. He lives a great distance from here and comes farther to attend this meeting than some of the members who went to the International Surgical Congress in London. He has been faithful to his trust, and we ought to pay him this honor by electing him Second Vice-President.

W. W. RICHMOND: I have been at Dr. Heath's house. He lives about ten miles above Barbourville. I have met his wife, and he is a magnificent gentleman and deserving practitioner. I can vouch for everything Dr. McCormack has said about him.

J. S. LOCK: I am Dr. Heath's home companion. I feel proud of the fact that Dr. Heath has met with such a reception by you men, and I want to thank you before the ballot is taken for fear someone may change his mind. (Laughter.)

CHARLES L. HEATH: I feel honored in being nominated for the position of Second Vice-President, but I am not eligible to election.

THE SECRETARY: If the voting is done by unanimous consent, it will be all right, and the fact that the gentleman himself is interested in the matter would obviate any objection raised to him. I do not think Dr. Heath has a right to raise objection if no one else does.

The President then put the motion, and Dr. Heath was declared duly elected Second Vice President unanimously by rising vote.

THE PRESIDENT: Nominations for Third Vice-President are in order.

THE SECRETARY: I would like to nominate James C. Mobley, of Hardin County, who has been a constant attendant at the meetings of the Association. He is Secretary of his county society, and a very active and industrious man.

R. C. McCHORD: I second the nomination.

It was moved that nominations be closed and the Secretary be instructed to cast the ballot of the house for Dr. Mobley.

Seconded and carried.

The Secretary cast the ballot as instructed, and Dr. Mobley was declared duly elected Third Vice-President.

THE PRESIDENT: The next order is the election of two delegates to the American Medical Association, the vacancies being Dr. Kincaid and Dr. McCormack, whose terms have expired.

THE SECRETARY: At the recent meeting of the American Medical Association, Milton Board was selected as alternate to represent our Association. He in some way or

other, as you doubtless suspect from your knowledge of him, took to that position with remarkable avidity. There is some politics in the Association which requires a considerable degree of statesmanship, and Dr. Board fits in the niche very nicely, and I am sure the House of Delegates would feel very glad to have Dr. Board represent the Association at the meeting to be held in San Francisco. I therefore desire to place in nomination Dr. Board to succeed Dr. Kinnaird.

It was moved that nominations be closed, the rules suspended and the Secretary instructed to cast a ballot for Dr. Board.

Seconded and carried.

The Secretary cast the ballot as directed, and Dr. Board was declared duly elected a delegate to the American Medical Association.

THE PRESIDENT: Nominations are in order for another delegate.

J. E. WELLS: I desire to place in nomination Dr. Arthur T. McCormack to succeed himself.

The nomination was seconded by several delegates.

C. G. DAUGHERTY: I move that nominations be closed and that the President be instructed to cast a ballot for Dr. McCormack as delegate.

Seconded and carried.

The President cast the ballot as directed by the house, and Dr. McCormack was declared duly elected delegate to the American Medical Association.

THE PRESIDENT: There are three councilors to be elected, councilor from the Eleventh District, councilor from the Ninth District, and councilor from the Seventh District.

THE SECRETARY: The representatives of the Ninth District have talked the matter of councilor over, and it has been practically agreed among them that they are in favor of A. S. Brady, of Greenup as councilor from that district. I therefore place him in nomination.

Seconded.

It was moved that the rules be suspended and that the Secretary be instructed to cast a ballot for Dr. Brady, which he did, and Dr. Brady was declared duly elected councilor of the Ninth District.

THE PRESIDENT: Councilor from the Seventh District. Nominations are in order.

THE SECRETARY: The Seventh District is one of the most important in the State. Dr. Hammond is located a long distance from the railroad, and it has been impossible for him to visit the county societies, and they need a councilor badly. It is a difficult district to get about in, and Garrard County is included in it, as well as Lincoln,

Casey, Russell, Pulaski, and in all probability it is hard to get from one side of it to the other, and it is better to select a councilor from Pulaski, and Dr. A. W. Cain would probably be the best councilor for this district.

R. C. McCHORD: I nominate Dr. A. W. Cain, and move that the Secretary be instructed to cast a ballot for his election.

Seconded and carried.

The Secretary cast the ballot as directed, and Dr. Cain was declared duly elected councilor of the Seventh District.

THE PRESIDENT: Nominations for councilor of the Eleventh District are in order.

J. E. WELLS: I want to nominate J. S. Lock of Barbourville, to succeed himself.

C. G. DAUGHERTY: I second the nomination and move that nominations be closed and the Secretary be instructed to cast the ballot.

Seconded and carried.

The Secretary cast the ballot as directed, and Dr. Lock was declared duly elected councilor of the Eleventh District.

THE PRESIDENT: Nominations for Orator in Surgery are in order.

THE SECRETARY: I nominate Dr. J. G. Gaither, of Hopkinsville.

W. B. McCLURE: I second the nomination.

It was moved and seconded that the Secretary cast one ballot for the election of Dr. Gaither as Orator in Surgery. Carried.

The Secretary cast the ballot as instructed, and Dr. Gaither was declared duly elected.

THE PRESIDENT: Nominations for Orator in Medicine are in order.

J. S. LOCK: I desire to place in nomination a man who has done considerable research work; who is Secretary of the Bell County Medical Society, and has made it one of the best societies in the State of Kentucky. He has the honor and respect of the entire profession, and I believe and know would fill the position as Orator in Medicine with credit. I nominate O. P. Nuckols, of Pineville.

W. B. McCLURE: I move that the nomination of Dr. Nuckols be made unanimous.

Seconded and carried.

It was moved that the Secretary cast one vote for Dr. Nuckols as Orator in Medicine.

Seconded and carried.

The Secretary cast a vote as directed, and Dr. Nuckols was declared duly elected.

THE PRESIDENT: I believe this finishes nominations and elections of officers, and the next order is Reports of Committees. Is the Chairman of the Committee on Medical Education ready to report?

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

The 78th annual session of the Medical De-

partment of the University of Louisville had a most auspicious formal opening on September 28th, 1914. The President and members of the Board of Trustees of the University, Dean Seymour of the Law Department, members of the Faculty of the Academic Department, the Medical Faculty and students were there to welcome a former member of the faculty, Dr. Wm. L. Rodman, now of Philadelphia, and President-elect of the American Medical Association. Dr. Rodman spoke feelingly of those famous men who had been called to high medical positions from the Faculty of the University in years gone by, and referred specially to the splendid physical condition of the College building and the wonderful Public Hospital recently finished by the city, under the special guidance of Hospital Commissioner, Dr. Ap Morgan Vance, who was present. Dr. Rodman also referred to medical education in other states and the necessity for State and municipal financial aid for medical education, as well as for the arts and sciences.

The meeting was presided over by Dr. Lewis V. McMurry, President of the Faculty, who mentioned in his opening remarks to the changes which had occurred in the University of Louisville in the past year; the election of Mr. A. Y. Ford, a salaried President; himself as President of the Faculty, succeeding the late Dr. J. B. Marvin; and Dr. Henry Enos Tuley as Dean, succeeding Dr. W. Ed Grant, who resigned, because of ill health, and the stress of other duties. Reference was made to the fact that Louisville was the pioneer in consolidation of Medical schools, bringing together five proprietary medical colleges into one city owned institution controlled by a Board of Trustees appointed by the Mayor and confirmed by the Council.

But few who are not directly interested in medical education realize the rapid strides which have been made in the standards of entrance to the study of medicine or the changes in curriculum of the four years' college course. From a two years' course, with no entrance qualifications, save the price of tuition, and usually the lowest bidder landed the student, to the present high standard for entrance and ideal curriculum has been the result of no demand from the lay public, but from persistent endeavor from within the profession itself and largely through that excellent organization, the Council on Medical Education of the American Medical Association and the allied organization, the American Medical College Association. Beginning with January, 1914, the requirement for entrance to the study of medicine in the University of Louisville, is a four years' high school course, totaling 14 Carnegie units, and in addition a one year college course, in which

has been studied, chemistry, physics, biology and one modern language. The College of Liberal Arts of the University is giving this pre-medical year or two years pre-medical, the latter course in connection with the Medical Department four years' course, leading to a B. S., M. D. degree.

President Ford called attention in his remarks at the opening to the fact that Louisville is keeping pace with 28 states and municipalities in the United States, that he could mention, that are appropriating public funds for the support of medical colleges on the broad principle that it is an essential part of the same duty that leads them to establish city hospitals, namely the cure and prevention of diseases by the spread of medical knowledge. Louisville's Public Hospital was built and is being operated as a teaching hospital, putting the hospital at least during the session, in charge of the faculty of the University, as the Visiting Staff. The entire Junior and Senior classes are doing practical work in the out-patient department and in the wards, during the hours between 9 and 1. Each student is provided with a long white gown which he wears in the Hospital. In groups of four or five the students obtain the history of each patient admitted, under the supervision of the Intern staff, making physical examinations, making blood counts upon every patient and do a routine urinalysis and a fecal examination, when indicated. Between the hour of 12 and 1 in the large amphitheatre of the City Hospital, the entire Junior and Senior class meet for diagnostic clinic in the various departments.

The Pathological Department of the Hospital is under the charge as Chief Pathologist of Professor of Pathology in the University. In the Laboratory, surgical specimens removed in the Hospital are run through a careful staining for diagnosis, and record of the findings made, as part of the permanent record of that patient on the history chart in the wards and a permanent record kept in the laboratory. The laboratory also does all the work for the hospital in serology and bacteriology, the same careful records being kept in every case. These are cross indexed by name and disease, which will prove of great value in future years. All autopsies are performed in the same way and the records made a part of the history in every instance. A very valuable hour is spent each week on Wednesday from 5 to 6 p. m. called the Clinico-Pathological Conference, at which are gathered both Junior and Senior students. Here, gross specimens are shown and explained from a pathological and clinical standpoint by the pathologist and the clinician, from whose service each patient came.

The Out-Patient Department is conducted

in the same careful manner, record of the histories kept and the student under competent attending physician, being brought in close touch with the individual patient. A walking clinic of nearly 300 patients a day is now under observation.

The curriculum of the College is thorough manner. Two students are on duty each week in a dormitory at the College building. They are on call at any hour, day and night for Obstetrical cases in charge of the Obstetrical Staff of the College, at the Hospital and the city physicians, so as to observe the required number of cases during their Senior year.

The curriculum of the College is thorough and conforms to the ideal curriculum reported by the Committee of one-hundred of the American Medical Association. It exceeds in the number of required hours and covers the course in every particular.

The Library of the College has been moved to more commodious and accessible quarters on the second floor and is in charge of a competent librarian. It has acquired, by gift of the family, the library of the late President of the Medical Faculty, Dr. J. B. Marvin, containing nearly 1000 volumes. It has received, by gift, many volumes from its Faculty and has on file nearly 200 weekly and monthly medical publications. The books in the Library are catalogued according to the method of the Surgeon General's Library in Washington and many students avail themselves of the privilege of reference to the many valuable books of the collection. The Louisville Free Public Library has made the medical Department one of its branch libraries, keeping on file 200 selected volumes, which can be taken home by the student, the same as from the Free Public Library.

In connection with the Library is operated a Student's Book Store, the funds accruing from the sale of books and laboratory supplies being kept as a Library Fund, with which will be bought additional books and publications, especially journals on the specialties and research subjects.

The college building, through the wisdom of the Board of Trustees, has been thoroughly renovated, under the supervision of Dean Tuley, from top to bottom. It has been painted and varnished throughout, new lighting system installed and a complete new lavatory equipment put in; a battery of four ice-water sanitary drinking fountains has been put in and separate class bulletin boards put up.

Four lecture rooms have been equipped so that small classes can be brought together for closer contact with the teacher. A locker room has been provided for the convenience of the students from the various laboratory rooms in which can be stored outside wraps and supplies necessary in their laboratory

work. Smoking is prohibited throughout the entire building, except in the students' room.

The entire professional care and treatment of the patients in the hospitals throughout the year has been placed, by the city authorities, in the hands of the Board of Trustees of the University.

The Faculty and associates have been together frequently to discuss plans for the year, schedules and hospital service and a spirit of co-operation exists, which is manifest everywhere. This has been handed down to the students, who, without exception, have the college spirit, the desire to assist in keeping the standard the highest, the building the cleanest and themselves the most enthusiastic set of medical students to be found anywhere.

W. W. RICHMOND, Chairman.

Upon motion the report was approved.

THE SECRETARY: I would like to say, that there has been some complaint from time to time during the last few years, during the period of reorganization of the Professors in attending lectures at the University. It is a kind of temptation which it is difficult for a physician in active practice to avoid when he has to sustain a family in a large city. I am confident that there will be no further complaint on that score. The Scientific Faculty has been reorganized and is composed of some of the best men in the United States, and the University of Louisville is now on the map. It is the best medical school available for students who desire to study medicine from this section. There has not been a time in the last ten years when one could say to a doctor who was going to study medicine, go to Louisville. Any doctor can conscientiously say to any man who is going to study medicine, the best opportunity to acquire a medical education is to go to Louisville. They would improve every day in the year. They have got the best hospital for teaching purposes that there is to be found in the United States, planned by that great genius, Dr. Vance. As a teaching institution, it is owned and controlled by the City of Louisville. The money is furnished by the City of Louisville. There is no expense to the college. The pathological department has been organized along the lines of the Massachusetts General Hospital, and it is an up-to-date institution, and it is with pride that we as representatives of the State Board, for the first time in ten years, can conscientiously say to every man, who desires a medical education, to go to Louisville. It is no use to recommend any young man to go to this University unless he is properly prepared, unless he has a diploma from a high school, and has taken one year of college work, he cannot be entered in any reputable school in this country. The medical profes-

sion of Louisville is a unit behind the University.

All disaffection has disappeared to a considerable degree, and the time has now come when the profession of the State and Faculty of the University and governing authorities in State Medicine can all unite in helping to build up our premier institution. (Applause.)

JOHN J. MOREN: While Dr. McCormack was speaking an idea came to me. I wonder if it would be plausible or possible and acceptable if we could arrange by some means useful postgraduate work on the treatment of fractures. Could that be done?

THE SECRETARY: I am satisfied the University of Louisville would be glad to cooperate with us in that work. It would be well to have home extension courses. I am perfectly convinced of this from a result or two I have seen recently in my practice.

JOHN J. MOREN: I know there are practitioners who need a little instruction along that line, and I do not mean any of the doctors in Kentucky in particular. I do know, however, that some need instruction, and if it is possible for that to be done, I am sure it would be worth while.

THE SECRETARY: I move that the Chairman of the Medico-Legal Committee be appointed a committee of one to confer with the authorities of the University of Louisville as to the possibility of inaugurating a postgraduate course in the treatment of fractures.

R. C. MCHORD: I second the motion.

JOHN J. MOREN: Such a course can be arranged, and I would be willing to guarantee it if it is acceptable to the doctors of the State.

THE SECRETARY: They will be glad to do it. Doctors like knowledge.

JOHN J. MOREN: I will look into that and see what can be done.

C. A. VANCE: Do you think it would be better for each county society to have men from the outside come in and read papers or give a course at one of the regular meetings.

JOHN J. MOREN: That is still a better suggestion.

THE SECRETARY: I accept the amendment.

JOHN J. MOREN: The county societies can arrange for such a course and be authorized to furnish a surgeon to conduct such a course in any case where the county society makes the necessary arrangements.

A DELEGATE: Our representatives could go to Louisville and prepare themselves to read papers before county societies and in that way spread knowledge among the members.

The amendment was seconded, accepted, and the original motion as amended was carried.

THE PRESIDENT: The next thing in

order is the Report on Expert Testimony, J. N. McCormack, Chairman.

THE SECRETARY: My father has asked that this report be passed. He has done considerable work along this line and needs more time to work it out. He believes we should continue to educate the public and some good can be done in that way. It is not only necessary to preach to the medical profession who are to a considerable degree the worst offenders, but to bring it to the attention of the Courts in such a way that many men, who have been conspicuous by their appearance in what were practically "frame ups," will discontinue such practices. It is important that this matter be pushed, and I am confident it will be through the year with the hope that sufficient attention will be concentrated on it to get results. The State Bar Association has appointed a committee to cooperate with a Committee of this Association to aid in the passage of such a bill.

THE PRESIDENT: The next committee to report is one on Preventable Diseases of the Eye.

REPORT ON PREVENTABLE EYE DISEASES IN EASTERN KENTUCKY.

R. L. COLLINS, Hyden: As one of the members of your Committee on Preventable Eye Diseases, I wish to make the following report:

All other preventable diseases of the eye, in the mountains of Kentucky, at least, fall entirely in the background when trachoma is considered. Of all the observations of eye troubles by those who have had the opportunity to observe in this section, at least 99 1-2 per cent. of the preventable eye diseases are trachoma, as I shall be able to show you later in this report, by a report of the United States Trachoma Hospital at Hyden, Kentucky.

Trachoma is an old disease, known as granulated lids or sore eyes, and is catching or transmitted from one having the disease, to healthy eyes, by pus carried from such sore eyes on towels, wash basins, bed clothing, etc. There are many stages of this disease, ranging from a few granules with no noticeable symptoms to corneal ulcerations and blindness.

The writer of this report scarcely deems it necessary to give any proof that trachoma is a contagious disease, but since a good many of the physicians in Kentucky have had very little opportunity to see the trouble a little may not be amiss.

A family of nine members called a physician that some trivial disease might be diagnosed and treated for some member of the family, and he, noticing that a number of them had the external marks of trachoma, made an

examination of the whole family, with the result that seven of the nine were found to have well marked cases of trachoma, the oldest daughter and mother only escaping. On getting the history of how it started in this particular instance, the father had had the disease for twenty years and through ignorance and carelessness had transmitted it to most of his family.

There is a section of Leslie County, known as Poll's Creek, in which repeated examinations show that over 50 per cent. of the whole population have trachoma, with quite a few of the adults rendered unable to earn a livelihood and a larger per cent. of the children to attend school.

I am delighted in this connection to notice that the State Board of Health of Kentucky has made trachoma a contagious disease of such a degree so as to prevent those having it from attending public schools, so this will aid greatly to the force of stamping out the disease.

Listen, Brethren! There is a call in the mountains of Kentucky, the same call that was heard in olden times, "Come over into Macedonia and help us." There are 10,000 people in Leslie county alone, and at least 10 per cent. or 1,000 people have trachoma. This dreadful disease is causing blindness and suffering in sections where it is prevalent, but seventy fold more is spreading with great rapidity as fire spreads in a forest, and to stamp it out not only requires hospitals, physicians and nurses, but a general education of the public in the nature and awfulness of the disease, how it is spread, and how to prevent its spread. We, as an army of philanthropic men, must not live for ourselves alone, but for those who come after us as well. If the present generation in Eastern Kentucky can be educated with all forces brought to bear, to so live that trachoma will be eradicated in the next generation, the Board of Health in Leslie county, and the Hyden Trachoma Hospital, will be fully satisfied.

The trachoma situation naturally falls under two heads: First, the prevention of the spread of the disease, and

Second, the treatment of the existing infection.

The Hyden Trachoma Hospital is doing all that can possibly be done along both lines. Along the line of prevention, Dr. J. C. Johnson accompanied by one of the local doctors, makes visits on Fridays at some of the most accessible school districts where from four to five schools have assembled, representing from one to two or three hundred people, and give public lectures and examine eyes. I wish to mention also in this connection that the teachers in Leslie county are doing their share in the good work, and that the County

Superintendent is adding his support by allowing the teachers who thus assemble, to count their time as naught.

Now, as to what the Hyden Trachoma Hospital is doing for the existing infection, the following report will show:

The total number of people applying for relief at Hyden Trachoma Hospital, from September 25th, 1913, to September 1st, 1914, was 1,127. Number of these having trachoma, was 477; total number of treatments given 3,684; number of cases of impaired vision from trachoma, 369; number of cases corneal opacity from trachoma, 74; number of cases of pannus from trachoma, 176; number of cases of marked photophobia from trachoma, 216; number of cases of entropion from trachoma, 62; number of cases of corneal ulcers from trachoma, 30; number of operations done in Hospital, 301; number of cases by grattage method, 153; approximate number of cores affected for trachoma, 216.

It may occur to you that there is not as much trachoma as we would have you think, when only 477, of 1,127, applying for treatment have the disease, but most of those who did not have trachoma have only conjunctivitis or some other simple eye trouble.

You can see what a serious disease trachoma is, when 369 of the 477 cases had impaired vision, 176 pannus, 216 marked photophobia, 52 entropion and 30 corneal ulcerations.

I consider 216 cases of trachoma one of the greatest works that can possibly be done by any small hospital in one year.

We have situated, one at Hindman and one at Jackson, United States Trachoma Hospitals, which I feel sure are doing equally as good work as the one that is at Hyden. Let us all wake up and make it possible by our hearty cooperation that these Hospitals be maintained and others speedily established as there is much need for them in the mountains of Kentucky.

Upon motion the report was adopted as the sense of the Association and the gratitude of the Association was extended to Surgeon McMullen of the U. S. Public Health Service who has had the work in charge.

THE PRESIDENT: Are there any other reports to be presented?

THE SECRETARY: Dr. Murnam, Chairman of the Committee on Division of Fees, has handed me his report, which I will read. The Committee reports the following substitute for the amendment which I offered at a previous meeting:

Provided that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge:

I hereby promise upon my honor as a gentleman that I will not, so long as I am a member of the Kentucky State Medical Association

tion, practice division of fees in any form; neither by collecting fees for others referring patients to me; nor by permitting them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate any one referring patients to me; nor will I utilize any man as an assistant as a subterfuge or this purpose."

THE SECRETARY: I move the adoption of this amendment.

R. C. McCHORD: I second the motion. (Carried unanimously).

THE PRESIDENT: The next is the Report of the Finance Committee.

P. D. GILLIM: Your Finance Committee has carefully examined the report of the Council which includes that of the Auditor and Expert Accountant in the Annual Report of the Secretary and Treasurer. We congratulate the Association upon the evident care shown in the management of its fiscal affairs and, especially, commend the action of the Jefferson County Medical Society in promptly meeting the deficit in the cost of publishing the Jefferson County issue of the JOURNAL.

It is a pleasure to note that for the eighth successive year the Association has an increase in its reserve fund.

THE PRESIDENT: You have heard the report. What will you do with it?

J. S. LOCK: I move its adoption.

Seconded and carried.

W. W. RICHMOND: I would like to make a motion. For each of the last three years our Secretary has generously donated \$25.00 of his salary to help defray expenses. I believe this money was donated for the benefit of a microscopist, and I move that his salary be fixed at \$125.00 per month as formerly.

R. C. McCHORD: I second the motion.

THE SECRETARY: I do not want any refund. I do not want to be paid for any back service. It was a bona fide donation, and I do not want it back.

W. W. RICHMOND: It was my intention to state in the motion that it was not to be considered in the nature of a refund, but restored.

Motion put and carried.

THE PRESIDENT: We will now have a report from the Reference Committee on Reports of Officers, C. C. Garr, Chairman.

C. C. GARR: Your Committee on Reports of Officers begs to report that it has carefully examined the Reports of the Officers as reported in the JOURNAL, and find that all are worthy of great praise. There is no part of them which your committee can criticize and can only commend the splendid system in use.

THE PRESIDENT: What will you do with the report?

It was moved that the report be accepted.

Seconded and carried.

THE SECRETARY: I have a telegram from the Secretary of the Southern Medical Association which reads as follows:

The Southern Medical Association through its Secretary extends greeting and best wishes. Hope you are having a great meeting. The Southern Medical Association meets at Richmond, Virginia, November 9-12, and a most cordial invitation is extended to each member of the Kentucky State Medical Association to be present. We want you with us.

(Signed) SEALE HARRIS, Secretary.

THE PRESIDENT: I have here a telegram extending an invitation to our Association to hold the next meeting in Louisville. It is from the Convention League, and signed by R. W. Brown.

C. G. DAUGHERTY: I move we accept these courteous invitations with thanks.

Seconded and carried.

THE PRESIDENT: Report of Committee on Contract Practice, O. P. Nuckols, Chairman.

O. P. NUCKOLS: I have no special report to make. Nothing has been referred to this Committee for consideration, and personally I would say, as far as Contract Practice is concerned, it involves itself into three conditions. It will have to remain as it is by virtue of a certain stipulated movement, or become a public charity, or become a charity upon the part of corporations who employ most of the doctors. We would suggest that the matter be left as it is at present, and have no further suggestions with regard to any changes to be made in this matter of contract work.

W. W. ANDERSON: On the question of Contract Practice, I think the first definite official action taken by this Association was on a motion that I made a good many years ago from the Campbell-Kenton Society, asking that any man, who undertook contract practice for any lodge or association, or like organization, for a less price than is charged for similar work in outside practice, should be deemed guilty of unprofessional conduct and made liable to dismissal from the organization. This resolution was adopted as coming from the Philadelphia County Medical Society of Pennsylvania. This body likewise adopted the resolution and it became the sentiment of our State Association. We worked on this question in Campbell-Kenton County for many years, and we excluded men who did lodge contract practice. We did not accomplish anything. The lodges were able to get inferior men and continue their work. I think I am correct in saying,

the Judicial Council of the American Medical Association decided within the last year or two that societies, state and national, are incompetent to act on this question, and referred it to the county societies for final adjudication. We have found we cannot control lodge contract practice by excluding contract doctors from our Society, and we are planning to adopt the other course of taking them in and trying our level best to lift them up, make better doctors of them, and by personal solicitation and public sentiment in the society to get them to give this up as far as possible, and also by our contact with the people who belong to these organizations to show them it is impossible to get good service for the prices paid by the lodges, namely, \$2.00 a year for the members and rest of the family usually. The reason we cannot force favorable legislative action is this: there are men in the practice of medicine legally, who are not crooks, men who have certificates from the State Board of Health which cannot be taken from them, who are cheap men. They are not worth much more, if any, than they are getting. We will try to raise the standard of those men, raise the standard of public sentiment and understanding, or wait until those fellows die and quit making that kind. (Laughter).

CHARLES L. HEATH: I am a member of the Committee on Contract Practice, and I want to say a word or two with reference to the conditions in my district. I am not a contract doctor. In regard to mining contract work in our part of the country, it cannot be handled in any other way. These mining companies, or rather the men simply won't pay up, and there are many men that you cannot collect from if you want to, and it is the only way you can get any money out of them. They doctor for \$1.00 a month, and this includes the man and his family. The rate is 50c for a single man. There is no lodge contract practice going on in that part of the country. I do not think the plan of contract practice can be changed in regard to these industrial corporations. I am opposed to lodge contract practice, and if we could change the method in regard to the mining companies, I believe it would be a step in advance.

Z. A. THOMPSON: I would like to know if this contract practice includes railroad and mining contracts, as well as lodge practice? It seems to me it is impossible to do that practice in any other way than by the month. A married man pays \$1.00 per month and a single man 50c. It has always been done in that way, so far as I can remember, and I would like to know whether this work includes railroad practice, mining practice, as well as lodge practice.

W. W. ANDERSON: In view of the

action of the Judicial Council of the American Medical Association referring the whole matter back to the local societies, I move that the former action of this House of Delegates be rescinded, and that this body refer back to the county societies such contract practice questions as may come up for consideration. (Seconded).

C. G. DAUGHERTY: I would like to move that the association try to get these matters before the men and county societies, and that this association take a firm and definite stand against the question of lodge practice. I think there should be a clear distinction made. These men understand what is proper in regard to such practice. I do railroad work for the Louisville & Nashville, and other physicians work for other roads for less than we should get. The great evil lies with the lodges in paying such low rates. The average practitioner does a good deal more work for each family than he is paid for. We should let it be known that no good doctor will treat the members of a whole lodge for \$75.00.

VIRGIL E. SIMPSON: As I see it, the difference between so-called lodge practice and so-called industrial contract practice is that which may be designated as aristocratic on the one hand and plebian on the other. I am not able to discriminate between doing an unknown amount of work for a railroad company and making a contract with a fraternal organization to do an unknown amount of work for a given sum of money. There is no difference between lodge practice, so far as the underlying principles are concerned, or so far as the ethical side is concerned, and that of engaging as a surgeon for a rolling mill, a manufacturing plant, or any other industrial corporation. If you go into the question of lodge practice, you must go into it so far as industrial contract practice is concerned. I do neither, so that I am not personally interested in either, but there is no difference morally, ethically, or otherwise. There is a difference financially because one is more aristocratic than the other.

THE SECRETARY: It seems to me, that Dr. Simpson is right. The question resolves itself into an economic one. It is not a moral question at all. This association might pass a resolution to the effect that each doctor shall charge for his services what he is worth, and no more, and it is the price paid to the average physician, not the better class, that would increase the fee bill paid for the average railroad surgeon. That is the only difference. It is not a rate. In many fee bills paid by railroads, the bills are much smaller in proportion to the actual services rendered than the bills of the lodges. I do not think there is any question about that. The matter

resolves itself into this, that no member of the association should perform work of any sort for less than its real value, for anybody who is able to pay for it; I do not care whether it is a railroad company or an individual in your county. If the service is rendered to an individual, and he can afford to pay for it, he ought to pay his bill. You should charge your patients for the value of your services, as by so doing you will add a money incentive toward becoming better doctors, and the average will soon be worth more. If one is a physician for the Order of Eagles, he can just as well charge \$1.00 a month for each family as a lesser amount if his services are worth that much. There are many families who are able to pay \$12.00, while there are others who are not, and should not be paying anything. I believe the time is coming when the community physician will develop and the people will insist upon paying him to keep them well. When that time comes remuneration is bound to be more uniform. For instance, a group of individuals in Louisville will select for themselves a physician who will supervise their living habits in such a way as to enable them to get into the best possible physical condition, just as hygienists in the army have to do in preparing the soldiers for the field of battle. It is an economic matter. At present, one-third of the doctors in the State are not worth the ordinary fees. We have physicians in Warren County that even charge 25c a visit. I think the cheap men in the profession, as a rule, are thoroughly honest in making small charges. The attention of the public should be called to the fact that when they pay 25c to a physician for a visit, they are getting a quarter's worth of treatment—a dangerously small amount if they are really sick and a dangerously large amount if there is nothing the matter. It is a matter of education of the public along this line. Practically every doctor in this room has taken the State Board examination. I am confident that there is not a man who passed the State Board of Health since 1894, who is now engaged in contract practice. As the years go by, we are adding ninety doctors yearly to the profession of the State. I am confident they are actually worth more on the average, than the men who were not examined as to their qualifications.

P. D. GILLIM: There are a lot of weak vessels in the medical profession, and there are many of them who think they need an invitation to join the Order of Frogs, Owls, and Eagles, and so on, and they will do it and make themselves slaves to this bunch of industrial workers who combine in these lodges, and I believe it is a demoralizing condition which should be frowned on by the Kentucky State Medical Association. I do not believe

that we should in any way commend the action of these weaker vessels, and I am sure that Dr. McCormack is a man of large vision and can see in the remote future the economic condition that will confront us some day or other. But this community work will not come by revolution. It will be a long time before a physician will have a certain number of patients whom he charges so much per year to keep well, and if we make any progress along this line at all, I am sure it will be staying. It will be by evolution.

Z. A. THOMPSON: I do not belong to the Order of the Eagles or the Order of the Owls. I do not do any practice for them. I do practice for railroad companies and mining companies. If a doctor is going to be turned down in this association because he does practice for railroad companies and mining companies, I want to arrange my future matters.

Dr. McCormack spoke of those passing the examination of the State Board of Health. I passed the Kentucky State Board of Health in 1905, still I do railroad and mining practice. If Dr. Simpson or any other doctor in central Kentucky or Louisville were living in my section of the country, he would do railroad or mining practice if he could get it.

THE SECRETARY: What we want to do is to see to it that the average doctor should be fairly compensated for the work he is doing. There is not the slightest doubt that a vast majority of the physicians doing contract practice in the mines of the mountains are doing some of the best work in the State, and they are better compensated than the average doctor in other parts of the State. The doctors in these mines, who have a number of families, can treat and care for them right and get sufficient compensation, as these companies frequently pay from fifteen hundred to three thousand dollars a year. The doctors are getting the equivalent of a salary thus putting them on the same basis as a county health officer. A man can do such an active practice and do it right, and while there is no objection to that sort of contract, the contract that provides less than a living income is objectionable. It is economically objectionable, and if a man's income is not sufficient so that he can educate his family, support them and buy the necessary text books to keep up with his profession, he is in a mighty bad fix.

W. W. ANDERSON: I do not want to limit this discussion, but the members are not discussing the motion before the house. The motion I made was to rescind the former action disassociating contract practice doctors with the society, and referring the question back to the local and county societies for consideration.

C. G. DAUGHERTY: I desire to with-

draw my amendment and to second Dr. Anderson's motion.

The motion of Dr. Anderson was then put and carried.

THE SECRETARY: I move that a vote of thanks be extended to the members of the Campbell-Kenton Medical Society, to the ladies of Covington and Newport, and to the citizens generally for the generous hospitality with which they have welcomed our Association, and for the complete arrangements made for our comfort; and that the Association place itself on record as now being ready to believe in detail the very remarkable and extravagant promises made by Dr. Anderson as the representative of this Society at the meeting in Bowling Green. It sounded like a fantasy and a dream, but he has demonstrated that it could actually be done.

Seconded and carried.

L. C. REDMON: I desire to present the following communication for Miss Linda Neville:

At your meeting last year, by a vote almost unanimous, you approved of my proposal to submit to the Kentucky Legislature a bill to require the reporting of health boards of "inflammation, redness and swelling in the eyes" of young babies. Later, with advice from various other physicians, and with direct help from Dr. J. A. Stucky and Dr. J. N. McCormack, I wrote out a bill, incorporated in it a provision for requiring the reporting of trachoma as well as ophthalmia neonatorum. This bill, after I got the endorsement for it of the Jefferson County Medical Society and of the Fayette County Medical Society, was passed in the Kentucky Senate unanimously and in the House with only one dissenting vote, this dissenting vote being cast by a man who afterwards good-naturedly told me that he was in a "bad humor" at the time the vote was cast.

Cases of babies' sore eyes will be reported to the health boards, and the health officers in turn will be reporting the cases to some of you physicians for treatment. If those cases are in ignorant, poor families, you will find it difficult to make sure that your orders are obeyed and the babies' eyes properly attended to. I recall now the case of Baby ——— in Garrard County, who developed ophthalmia neonatorum. The physician, according to his statement to me, visited the baby in the country, gave directions, and these were not carried out between his visits. One eye was completely ruined, the other almost completely. I recall the case of a ten-year old boy out in the country, several miles from Harrodsburg. The physician, who made long trips into the country to care for this boy, who had gonorrhoeal ophthalmia, found, as he later wrote to me, that between visits his or-

ders were not carried out by ignorant parents. The boy is to-day almost totally, if not quite totally blind. To avoid the occurrence of similar cases, will you not, those of you who may be called on to treat such cases, if you have hospitals in your counties and find that the parents, through ignorance are unwilling to send their children to the hospitals for such attention to their children's eyes as they cannot give, promptly appeal to your county judges to use the "Liberal Construction" clause of the Juvenile Court Law and to order that the children shall not be allowed to become "dependent" by being allowed to become blind from neglect?

For the protection of the children who may develop ophthalmia and have no access to hospitals, that is in counties where there are no hospitals, will you not, you delegates assembled, pass a resolution requesting the medical societies in all the Kentucky counties to petition their respective fiscal courts to authorize the employment of a trained nurse for every case of ophthalmia in a family too poor to pay for a nurse.

It was moved that the report be received and filed, and that the county societies be requested to bring the matter to the attention of their respective fiscal courts.

Motion seconded.

C. G. DAUGHERTY: I would like to ask a question. Could there not be incorporated on the birth certificate something to this effect, that if you drop a two per cent. solution of nitrate of silver in the child's eye it may prevent ophthalmia neonatorum.

THE SECRETARY: I would like to ask Dr. Heizer to reply to that.

W. L. HEIZER: The law provides that the form of birth certificate adopted by the United States Census Bureau be used, and it is obligatory on us as physicians to see that it is carried out.

THE SECRETARY: The law provides that the solution shall be used, and it further states, in case you have a case of ophthalmia neonatorum in your practice and fail to report it to the county health officer within six hours after the diagnosis is made, you are liable to a fine of \$100 for each day it continues in your practice, and if the proof is sufficient it obligates the State Board of Health to revoke your license to practice medicine in the State. It is important for you to know that. You give the instructions in regard to treatment, and in case they are not carried out under your directions, you are obligated by the law to turn the case over to the county board of health.

I. W. JOHNSON: We have in the mountains of eastern Kentucky one factor to contend with which is probably the cause of this condition. We have a number of midwives

operating in the district who know nothing of this law, and there is no way of bringing it to their attention unless this body can appoint a committee to do so or send them literature and have the committee read it to them. Some of them cannot read or write, and some means should be provided to get rid of this condition or bring these midwives up to the same requirements that we physicians possess. We have to go to literary schools and spend the required number of years to secure a high school diploma, and then we go through the first year of college. We are now required to have two years of college work which it is right that we should have, and we should try to advance in every respect. But there should be some means whereby these midwives should be required to take a State Board examination. On the other hand, those people or midwives that cannot read or write will secure some one else to fill out the birth certificate. Very frequently the birth certificate is imperfectly filled out. They know nothing about the use of nitrate of silver solution, and when these babies get such a condition as ophthalmia neonatorum it is generally believed by the people that the light has caused this trouble with the child's eyes. Not only the prevention of blindness, but other conditions should be looked after by law or by educating the people. This law should apply to the midwives as well as to physicians.

R. C. McCHORD: This is provided for in the fact that it is the duty of the health officer to teach physicians and midwives these things.

THE SECRETARY: A penalty is imposed on the midwife of \$100 a day for each failure to report a case or failure to use a prophylactic.

Motion put and carried.

THE SECRETARY: The Council desires me to announce that it has re-elected John J. Moren as Chairman of the Medico-Legal Committee for a term of five years.

The Council also desires me to report that it has also approved the accounts of the councilors varying in amounts from \$3.00 to \$14.00, and also the expenses of this meeting incurred by the local committee of arrangements.

I move that these accounts be allowed.

Seconded and carried.

CARL NORFLEET: I desire to present the report of the Committee on State Medicine.

Acting in the absence of Dr. Stewart as Chairman of the Committee on State Medicine, I wish to submit the following report:

Realizing the magnitude of this department, I will touch upon the most vital present

question. We wish to commend all previous action taken in establishing and enforcing all laws, rules, and regulations pertaining to public health and preventive medicine.

We wish to advise further perseverance with greater zeal by the whole profession in securing the passage of all bills in our next legislative assembly pertaining to public health, especially the all-time health officer.

THE SECRETARY: I move the adoption of this report.

Seconded and carried.

REPORT OF COMMITTEE ON COUNTY SOCIETIES.

A. S. Denton: Your Committee on County Societies submits the following report. We listened with interest to the reports made to this meeting by the delegates from the various county societies. We noticed that those societies which have done the best work during the year, and who made the best report of this work, had their reports written and in the hands of their delegates. Therefore, we recommend that for the future, the secretary of the State Association be requested to anticipate the annual meetings with letters to the county presidents, county secretaries, and county delegates, calling their attention to the importance of preparing written reports and having these in the hands of each delegate before he leaves his home. This will secure better and fuller reports, and also better forms for permanent record in our annual minutes.

The county society is, as we see it, the unit of medical organization. In it and its delegates to the State meeting are great possibilities for advancement to greater efficiency in matters of public health. The county society is also in the last analysis the regulator of the officers of the State Association. As is the county society of the State, so will be the efficiency of the State Medical Association.

Back of the activities of the visible State machinery must be in every nook and corner of our State a positive, dependable county society which will work out in detail the legislative and administrative purposes of the whole. It may not be feasible, at all times, to maintain an army of regulars with flowing banners and marshal music to parade for show. Indeed, such might not secure the best results, and possibly would be out of harmony with our ethics. But let there be a county organization, well officered, and having in its membership all of the dependable doctors of the county. These should meet regularly for scientific study, but if this work is not done in the best and most systematic way, let it not be heralded, as is often done, that all is lost. If there are occasional meetings they will serve to keep our minds in the line of this work, and our private reading and thoughtful

observation will be of great profit to each individual member and to the whole.

No honorable member of our profession should be abandoned because he has not identified himself with the county society. The best way to secure co-operation is to make matters pleasant as well as profitable. To this end, the social features must be looked after. The dues of the county society should be sufficient to provide an occasional entertainment. The banquets of some of our county societies, the barbecues of others, and better still, the day or two outing and fishing, as suggested by Dr. Richmond, will be of substantial benefit to any and all who indulge in them.

Duty, business and pleasure engage much of our thought. We strive to keep other people active and well. Occasionally the gun is reversed, and the doctor is face to face with stern reality that he is mortal. It is the living and not the dead that enjoy the banquets.

Besides the tangible visible organization in the county society, there should be an understood relationship among the members of the profession in each county which can be utilized with telling effect on all questions of local public policy.

There are many lines of activity for the medical profession in each county. Systematic, thoughtful, persistent work cannot fail of reward. Spasmodic efforts often do harm.

Our great work now is to prevent disease. A different line of operation confronts us. We must adjust ourselves to new relations. Therefore, as the unit of medical organization and usefulness, the county society should be fraternal in every possible way.

It was moved that the report be adopted.

Seconded and carried.

REPORT OF THE CONFERENCE ON MEDICAL LEGISLATION.

W. A. POOLE: To the House of Delegates and Members of the Kentucky State Medical Association:

Gentlemen: As your representative at the Tenth Annual Conference on Medical Legislation, held under the auspices of the Council on Health and Public Instruction and the Council on Medical Education of the American Medical Association, I beg to submit the following report:

These councils have adopted the maxim "the nation's health is the nation's greatest asset," and in carrying out this idea, their work has been three-fold; first, to educate the common people that good health laws and better health conditions are necessary for their own happiness and the welfare of their posterity. Second, to enlist every doctor in this great country in the fight against disease, the elimination of quackery, and to help in educating the people in preventive medicine.

Third, to give to the world in the medical men of the future a product of finished education, an array of men better fitted for a life work in medicine than has ever been known. These men will be trained in the fundamental branches of medicine as never before; they will have the advantage of individual instruction, of clinics, of hospital experience, of courses in medical economics and life insurance, and many other things that you would have given so much for in your school days. In fact, we are reminded of Dr. Anderson's statement, that the ideals of to-day will be the history of to-morrow. Your ideals in medical education yesterday are history to-day.

In his opening address, Dr. Henry B. Favill, Chairman of the Council on Health and Public Instruction, asks, "What do we know about the State boards of health? Are we prepared to have an opinion as to our state boards of health, either what they are or what they should be, and if not, what are we going to do about it? Our answer to that proposition has been, what you probably know, a definite effort to find out what our state boards of health are, how they are backed, with a view to helping, so far as we may, to create a public health service in the various states which shall have not only efficiency in its individual units, but also solidarity."

We were reminded that the state boards of health are the great public health function of this country; no matter what we succeed in doing in the way of national health, the state boards of health will still be the prime factor of such work.

As this paper was read we thought of our own State Board of Health, of their frankness in dealing with the doctors of our State, how every medical man in the State knows what our board of health is, how it is managed, how it is financed, and by bulletins, treatises, pamphlets and other printed matter, with lectures and other actual work in the field, we know what they are doing in health matters.

Forty-three state legislatures met some time last year, and in these legislatures there were more than one thousand bills on various health topics introduced. The purpose of your committee is to select ten of the most important measures and work for their enactment in every state, then add to these as occasion requires. If their representatives have worked for legislation that will be a benefice to the race and are turned down, or perhaps some quack measure, like the optometry bill, or the dairyman's inspection bill is passed over their protest, they may feel like Robert Burns.

"Now, a' is done that men can do.

And a' is done in vain."

But the persistence shown by our council assures us that in their lexicon there is no such word as fail.

Certain committees, namely, those on Conservation of Vision, Protection of Scientific Research and Railway Sanitation reported favorable progress made. The Committee on Cooperation with the National Educational Association made a report of excellent work done in matters of rural hygiene.

Perhaps the most important paper before the conference was read by Dr. J. W. Petit on "What should be the Relation of the Medical Profession to the Secular Press?"

This paper was freely discussed by such men as Cantrell, Lawrence, Egbert, Ewing, etc., and by that prince of all doctors, Abraham Jacobi.

The Council on Medical Education have worked steadily and untiringly to raise the standard of the medical schools throughout the country, and the fact that in nine years the number of medical colleges have been reduced from 160 to 100, and that whereas there were only four schools requiring more than a high school education for admission, now there are eighty, and the standard for which they are working will be:

1. Preliminary education sufficient to enable the candidate to enter a recognized university.

2. A five year medical course, the first year of which should be devoted to physics, chemistry and biology, this year to be taken either in a school of liberal arts or in a medical school.

3. A sixth year as an interne in a hospital.

The one danger we see in the present trend of medical education is that narrow-minded university men may be made instructors and even clinical professors, instead of the broad-minded practical man that has had his schooling in the great battles of life as well as in the best colleges.

After all, as Dr. Witherspoon says, "We are going onward and upward until we are known throughout the land as the conservators of health and prosperity of our people."

On motion, the report was adopted.

As there was no further business to come before the meeting, on motion, which was duly seconded, the House of Delegates adjourned *sine die*.

ARTHUR T. McCORMACK, Secretary.

MINUTES OF THE GENERAL MEETING
OF THE KENTUCKY STATE MEDICAL ASSOCIATION, SEPTEMBER 23-25, 1914, NEWPORT, KENTUCKY.

SEPTEMBER 23.—FIRST DAY.—MORNING SESSION.

The Association met at the Blue Grass Inn, and was called to order at 9:30 A. M., by the President, Dr. W. O. Roberts, Louisville.

Prayer was offered by the Rev. Joseph Willis Hagin, of Covington.

INVOCATION.

O Thou wise, all pervading Creator in spirit, we recognize Thy presence as the joy of every occasion. As to-day we bow before Thy presence, we pray Thy blessing rest upon this meeting of men who are laboring for the betterment of mankind. We thank Thee, O God, we have come to realize that the Christian ideal is not contained in a series of propositions or in a theological system, but that ideal which is presented in Thee, the Great Physician, who went about everywhere doing good, even Christ, Our Lord. We thank Thee that we have come to understand that in sincerity is the secret to put ourselves in right relation toward Thee in all Thy laws in the natural and spiritual world so as to receive from Thee the blessings Thou dost hold for every one of us. We thank Thee Thou hast given us minds with which to think and investigate and to know the truth and the way, Thou hast made it possible to learn the laws of our physical need that we may the better enjoy Thy blessings. We thank Thee we have come to understand that man has a mind to be saved and to be used, and that he who by disuse or misuse or abuse of his body suffers disintegration and decay prematurely cannot be guiltless in the sight of God. We pray that Thy blessing to-day rest upon this Association and its splendid work throughout the State for the betterment of the race, for the advancement of the cause of science, and we thank Thee that no longer do we think as being antagonistic to the word of truth, but we think all science to-day is the handmaiden of real truth, such as is revealed through Thy word. Father, we thank Thee that to-day we are workers together with Thee. We thank Thee we have come to think of man as greater than anything else. Help us to care for our bodies as we should, and bless those men who are ministering day and night to the bodies of men, alleviating pain and suffering, realizing that they are rendering a splendid serv-

ice to the people. To believe in Christianity is to relate ourselves to the community by association and contributing in the largest way to its permanent good. Just as we contribute to our communities, and rendering ourselves accountable to society in that measure, so are we doing Thy will, with Thy heavenly benedictions resting upon us. Go with this meeting to-day. Be with these men in their thinking and planning of the truth, and may they come into a larger life with every day's investigation and service. Be with the association in the year that lies before it and in all years of the future to the end that it may grow in usefulness as we pray that may be the end of all our service. Hear us in our prayers; remove us far from the pathway that would hinder acceptable service unto Thee, using it always for Thy glory and for the betterment of our fellow men until our bodies, even our spirits, set free, shall come into Thy presence and in Thy likeness and be satisfied. We ask it in the name of Christ, Thy divine son and the world's Redeemer. Amen.

THE PRESIDENT: I have great pleasure in introducing to you the Hon. Aubrey Barbour, who will deliver the address of welcome.

ADDRESS OF WELCOME BY MR. BARBOUR.

Mr. President and Gentlemen of the Kentucky State Medical Association and of the Campbell-Kenton County Medical Society. Ladies and Gentlemen: In order to remove somewhat the sharp edge of formality, I am going to mention for a moment the weather, as that is the usual topic of conversation in mutual greetings. We in this community have up to the present moment for a number of days been enjoying the fairest, brightest and sunniest weather, while it is reported that the battlefields of Europe are being deluged with rain as the result of the firing of the great guns of the embattling armies. I am surprised, to learn that the big guns of medicine have the same effect (Laughter) and that even before they have made their reports. I do not know what will happen after they have reported. We may have to order boats instead of automobiles. I claim to be somewhat of a patriot and very much of an optimist. I love my country, my state, and this good old community in which I live, and yet notwithstanding that devotion, I am sufficient of an optimist to be willing that this community be visited by five hundred doctors and to go further and extend to them the glad hand of a hearty welcome. (Applause.)

Your presence here has suggested to me particularly two thoughts. One is that your method of practice has materially changed. You now practice not so much upon the individual as upon his environment. The scientist tells us that life is organized matter, which is

a very fine and precise distinction, but he tells us very little about life. He does a little better when he says that living is the harmonious adjustment between the creature and his environment. Now, it is apparent that that harmonious adjustment may be disturbed not only by derangement of the individual or the creature, but by a derangement of the environment. I think it is most pleasing and satisfactory to the patient to have the doctors go after the environment. How easy it will be for us. You can stick a knife into us or go as far as you please, it is all right, but how much pleasanter it is to sit down and instead of being dosed with nauseating blue mass or bitter quinin, have the doctor pour the libation of standard oil upon the stagnant surface of a neighboring pond. (Applause).

But seriously, gentlemen, what wonderful progress and splendid success have attended your profession in its treatment of the environment. The dread germs of disease have been largely banished from vast expanses of land, thus opening great territories to the establishment of happy homes and peaceful occupations. Hidden dangers that lurked in seemingly pleasant places have been revealed and put to flight. The balmy air of the southland still freighted with the perfume of the magnolia and the song of the nightingale is no longer laden with the poisonous miasma nor the terror of the typhus. In the environment of the city you have labored and your labor has not been in vain. The unpolluted product of the farm and dairy goes to feed the city's life. The mother often suffers the pangs of labor, for less often does the smile of motherhood yield to the countenance of despair through the baby's untimely death. Pain still haunts the abode of man, but its touch is less acute. Its attack is less frequent, and its power less potent to destroy the joy and zest of living. Great pestilences, vast and fearful, no longer stalk the city streets, a wonderful record to the credit of you men. If such progress continues with the speed that has been manifested within the last few decades, you gentlemen will surely, with rare unselfishness, have practiced yourselves out of an occupation. (Applause.) There will be no longer any duties for the physician to perform other than those which require, maybe, two moments in the span of life, the moment of birth, and the moment of death. Your offices will be perhaps merely to record whether it is a boy or a girl, or whether the patient died of an accident or of old age. (Laughter).

There is another thought, and that is one that was also suggested by my brother here, that you are engaged in the struggle for the life of others. Whether or not we accept the conclusions of Mr. Darkin, we all know that

modern thought and science proceed upon the idea and lines of evolution. The development of life, according to Mr. Darwin, was brought about by the operation of the probable struggle for life, the truth of a cruel doctrine. A philosopher and writer in speaking some years after Mr. Darwin, said that no doubt Mr. Darwin was correct as far as he went, but, he said, there is another element in man's evolution which has been overlooked by the scientists, an element that certainly operates in the case of man, if not in other forms of life, and that is the element of the struggle for the life of others. He went on to show that the evolution of man was, in all probability, so far as physical and mental qualities are concerned, so complete that the hand will no longer be a perfect instrument, will no longer improve, because the brain by invention and discovery will take the place of what the almost perfect hand, if possible, might do. The eye no longer will be relied on to do certain things. The microscope and telescope will supercede the eye. The ancients, although not having the possession of the great number of facts that we have to-day, were, in all probability, possessed of strong, sound mental processes, but there is being manifested to-day the spiritual evolution of man, and that is largely brought about and governed by the law that a later writer laid down, and that is the law of the struggle for the life of others. Is it necessary to do more than merely make the suggestion to emphasize the fact that your profession perhaps, above all others, is engaged in this struggle for the lives of others? What a noble and lofty mission, and how nobly has your profession followed this mission through all the centuries, keeping the object of your profession always in view in time of peace, not alone, but in times of war. During the fanatical ages of the past, sometimes even the priest has gone forth to slay, but the physician always goes forth to save. To-day on Europe's battlefields, amid the chaos of heat and hate there is being written in human blood and voiced with bugle call and cannon's roar, man's inhumanity to man. There also, at the same time, your comrades, in the profession, with equal zeal are engaged in the struggle for the lives of others, tending the wounded, and assuaging pain, mending the torn flesh and shattered bones, quietly and courageously ministering to friend and foe alike without regard to race or rank or nationality, thus under the banner of the Red Cross proclaiming by acts that speak louder than the roar of guns, man's brotherhood and God's fatherhood. (Applause). I have no doubt that great conflict will be writ large on history's page, but when the memory of its glory and its folly shall have faded, the his-

torian and philosopher of the future will blazon the fact that the work of the Red Cross manifested the saving element in human evolution; that element that will lead us to that consummation devoutly to be wished—"Peace on earth, good will to men."

I have seen it written that in this day of long distance diagnosis and pure reason and exact scientific method, the doctor is losing personal touch with his patients. I do not believe it. At least, I hope that it is not true. I know of no sincerer, happier, real pleasing welcome than the family doctor receives, whether he enters the home of his patient in the time of sickness or distress, or in times of joy and festivity. It would be perhaps too much for you gentlemen to expect a welcome with that large personal feeling, but I beg to assure you that wherein that personal element may be lacking in the welcome which we extend to you, we will make it up by the great admiration and honor which we hold for your profession not only at large, but your great society in the state of Kentucky. We honor and admire you as representatives of a great profession. So it gives me great pleasure, with the combined personal sincerity of a heart to heart welcome, and the admiration and honor that we give to great things, to bid you a hearty welcome. (Applause).

THE PRESIDENT: I will call on Dr. Curran Pope, of Louisville, to deliver the response to the Address of Welcome.

RESPONSE BY DR. POPE.

Mr. President, Mr. Barbour, Members of the Campbell-Kenton Society and of the Kentucky State Medical Association, Ladies and Gentlemen: I feel after listening to the very eloquent and learned discourse that Mr. Barbour has given us this morning, that he was correct in saying that he likened this meeting to a battlefield, and if you will remember, nearly all battles are opened with a discharge of small arms and I am going to give you a small arm discharge, and you will have the detonating artillery later to fire yourselves. (Laughter and Applause.)

It is indeed, gentlemen, a pleasure and a privilege to respond to such a welcome, and I can only say to Mr. Barbour and to the members of these counties that the Kentuckian is always happy and always feels good whenever he is called upon to respond to anything that has to do with his native state or feminine beauty. I am happy to-day to respond to something for my State. As the representative of the Kentucky State Medical Association, I accept your hospitality. I will go further and say, that we will take from you the keys of the City of Newport and appropriate them for ourselves, but in doing this we will act temperately. There will be no sacking and pillage, but we will endeavor in

all respects, as long as we hold the keys, to temper the wind to the shorn lamb. (Applause).

Mr. Barbour has told you that organization is the bulwark of progress. That is correct. As I take it, the first real organization of the Anglo-Saxon race was the organization of the barons when they wrested from King John the great constitutional privileges that were incorporated in the Magna Charta and from that day to this and for all time to come men will take that as the first foundation stone of organization and constitutional liberty, giving as it does equal rights to all and special privileges to none, and therefore organization to-day represents all the great fundamental constitutional rights that underlie the brotherhood of man. Organization should never be anything but a true democracy, a democracy that has as its underlying factor the benefit of all and the lack of benefit to the grafter and the individual who is ambitious for self-aggrandizement. Organization is the only thing that will perfect the doctor. He cannot perfect himself or his organization or his work without organization; but that organization must have for its object the constant raising of the standard of himself and the raising of the standard of the student that is to enter organized medicine. We know that everything old is passing away; that a new era is entering; that medicine is keeping step constantly to the tune of the ages and it is in organization and organization alone, as Mr. Barbour has pointed out, we can look for hope for the future of medicine.

The time has come when commercialism in science must be put aside, when the commercial medical school and its self-aggrandizing faculty must be swept away, when the sole aim and sole endeavor of every student and every teacher is the betterment of the entire profession at large. (Applause.) Every individual in the medical profession has a right to look to betterment, to enlightenment, to turn to the college and university for help, and these institutions should open wide their portals and call every physician in the land into them in an endeavor that he may so better himself, that he can in his turn turn around and better those people who come under his professional care. It must ever be remembered that genius does not reside within the portals, nor within the confines of any sect or in the confines of any group. Individual genius has ever been wrought and hewn out of hard granite, out of suffering and travail. Harvey, single handed and alone, fought on every side, driven to an extreme was compelled to publish his discovery of the circulation of the blood out of England. Lister, under every possible disadvantage of private practice, established the greatest discovery and

made possible the greatest work that the world has known to-day in medicine and surgery. Kock, living in a little mountain village in poverty and penury, oppressed and scouted at, made the greatest discovery of the time, namely, the tubercle bacillus, and laid down postulates and rules that all the genius and knowledge of the world have not added one word to nor subtracted one word from to this day, now nigh on to thirty years. Freud has awakened a new psychology, and the list lengthens and lengthens, but genius must ever be fostered in and out of universities.

This is not a question of organization for selfish purposes. It may be selfish for a man to better himself, but every time he betters himself he betters those that come under his care, and the better he makes himself scientifically, the better he grows spiritually, the better is he capable to do for others, for after all the brotherhood of man recognizes no law, no sect, no religion. It recognizes only the man.

We hear, now and then, a good deal of the abuses of the profession. This is not justified. There is nowhere in the world more progress being made than in medicine and surgery. Medicine and surgery to-day is doing more for the people, more for the country, than almost any other of the sciences in a practical way. These things come along in our professional work, but we must with true spirit and true breadth, say, "Father forgive them for they know not what they do." We must be broad and liberal and scientific and allow nothing of *ism* to get into our work. It has been only by organized medicine, Mr. Barbour, that the things of which you have spoken have become possible. This organized medicine saw thousands and thousands slaughtered in the marshes and pools and pestilential parts of Panama, but when organized medicine headed by that wonder of wonders, Colonel Gorgas, the pestilential swamps of Panama gave way to the smiling hills of verdure, so that what had once been the most damnable pest of the whole world, is to-day as healthy from a sanitary standpoint as any city in the United States. And is it not a pleasure to think that Colonel Gorgas has been asked to go to Africa at the request of the British Government, in order that England may benefit by his great experience and knowledge? I say, hats off to ourselves, Mr. Barbour. (Applause.)

To-day surgery is doing the impossible. She is pushing back the skinny hand of death and rescuing thousands by entering regions that for years and years have been a *terra incognita*; where it was believed that in many regions the knife never would be placed at the disposal of man or the prospect of relief given. But to-day surgery is doing these

feats, and she is saving lives from useless invalidism. There are thousands of individuals but for this would not have even that blessed thing, *hope*. The psycho-pathologist is fast entering the domain of the hidden recesses of the human brain, and to-day we are learning and know more of those unconscious motives that move people in their course through the life that we all live, and which govern our actions. Medicine, surgery, psychology is opening up fields far, far beyond what has ever been dreamed in the world's phantasmagoria. Phantasmagoric feats are becoming realities, and they are the realities of every day practical life, and not the realities of a dream or imagination. But sometimes when we feel, as on these occasions, bright and optimistic and figuratively speaking, the sun shines bright and things are as they should be, it behooves us to still remember that there is in this state, as well as in many others, a dark and dismal blot upon its fair escutcheon. In spite of enormous advances that have been made in the physical and in the psychic treatment of the insane, to-day the whole matter is regulated by a commercialism and a jailer-like system that is not only repulsive to the scientific man, but it borders on the dark ages. The time has come when something must be done, and if it is not to be done by organized medicine, it will never be done, and if you gentlemen do not do it, it will go on and on, as it has gone on and on in the past, and I want to say to you, and let it be not misunderstood, that in what I say I reflect not for a moment on the gentlemen who are in charge of these institutions for the insane, but rather feel for them the same pity that I feel for the inmates, knowing that they are the victims of a system against which they cannot rebel.

How little the public realizes the wonderful progress that diagnosis has made in the medical profession. How little do they realize the wonders that chemistry is giving us day after day. The biological work in chemistry promises greatly for the future. With the Wassermann reaction practically completed, with Abderhalden's work opening up new fields yet uncompleted, medicine stands on the threshold of one of those glorious eras that partakes of the golden age. To-day we are on the verge and are likely to live and to participate in some of the glorious progresses or advancements that have been made in the history of the world in medicine. Medicine is becoming more exact every day, and surgery, her sister, cannot deny that she is getting nearly as exact as her.

The X-ray has practically entered every sacred precinct of the body, and to-day it is marvelous in the way of showing the surgeon where and what to operate upon, in diagnosing lesions for the physician; and it is one of

those growing interesting wonderful things of which you and I and all humanity should be exceedingly proud.

Evolution has become largely associated in the public mind with the problem of eugenics. Theoretically, eugenics is a beautiful proposition, but as far as practical eugenics are concerned, at the present time, it is a failure. No hysterical caterwauling of the unattached or the fiat of legislature constitutes eugenics, and eugenics will make no progress, but will go backward until into the hearts of the common people of the land comes the idea of the responsibility of marriage. What is sauce for the goose is sauce for the gander. If you are to subject a man to a critical analysis of his physical and other conditions, in order that he may be a true father, and a good father, and a healthier father, to the child of the girl he is going to marry, has not that man the same right to demand that the woman be clean, and that she has no pelvic lesions in order that she cannot become the mother of the child of the father she is choosing. Is it right for her to marry if she cannot suckle at her breast the infant she wants to bring into this world? What is sauce for the gander is sauce for the goose, and I say to you, if the Utopian dream that eugenists engage in were possible, it would be beautiful if it could be carried out, but after all humanity is frail and weak, and the presence of thoughts in all constitutes one of the redeeming pleasures of the world. Were it possible to carry out such Utopian schemes, it would indeed be a wonderful race, peopling the hills and valleys, a race that would regenerate and make a modern Rome, make her stand upon her seven hills and rule the world. But gentlemen, it will never come. It is a dream.

Despite all pessimistic references, everything in the medical profession to-day, or nearly everything, looks bright. It looks as though the sun that is said to proverbially shine so bright in this State, is shining all over the medical profession. Science and the medical profession are filled with the effulgence of hope, hope that maketh the heart glad and leads to greater deeds, both physical and spiritual, and to-day we say to Mr. Barbour, the representative of the people of the State, and to the physicians of the Kentucky State Medical Association, that we come into the midst of the people of Newport appreciative of his kind words of welcome and his learned address, with a desire to better ourselves in our work, and to increase the effectiveness of the profession of Kentucky at large. And, therefore, on behalf of this Association, of a grand and noble State, I thank Mr. Barbour for his invitation and hope that we will always deserve it. (Loud applause.)

THE PRESIDENT: We will now hear from the Committee of Arrangements.

W. W. ANDERSON, a member of the Committee, urged the members to register, and after so doing to procure tickets for the boat trip entertainment. He referred to the excellence of the exhibits and impressed upon the members the importance of visiting them and inspecting them.

He called attention to the meeting to be held at the Grace Methodist Episcopal Church, where music would precede the delivery of an address by Dr. Victor C. Vaughan, President of the American Medical Association, on the "Eradication of Disease."

THE SECRETARY: Owing to the illness of J. W. Ellis, President of the Association, which is to be very much regretted, and the disability of the Vice Presidents, the Council has given me the very pleasant privilege of bringing to the official attention of the Kentucky State Medical Association, that it has selected John J. Moren, of Louisville, as President of the Association. I am sure, in making this announcement you will recognize the singular unanimity of the Council in making the selection. Dr. Moren has been one of the laboring men of the Association, and his choice seems to have been inspired by every member of the Council, and it is with peculiar pride and pleasure I report his election to the Association, and I ask you, Mr. President, to officially inform him.

THE PRESIDENT: Dr. Moren has been an active member of the Association, as Dr. McCormack has said, for so many years that he must be familiarly known to each and every one, consequently an introduction is unnecessary. I feel the Association is to be congratulated upon the selection made by the Council, and I congratulate Dr. Moren upon the honor which they have conferred upon him. (Applause.)

DR. MOREN on taking the chair, said: "I appreciate this honor very much, and I will do my very best to see that the meeting is carried on to your advantage, and if I make a mistake, bear with me and be patient. I am sure, we will get along fairly well anyway. (Applause.)"

THE SECRETARY: I note the presence of Dr. Victor C. Vaughan, President of the American Medical Association in the hall, and I move that a Committee be appointed to escort him to the platform.

Seconded and carried.

THE PRESIDENT: I will appoint Drs. Hancock and Shirley to escort Dr. Vaughan to the platform.

Dr. Vaughan was given an enthusiastic ovation. He said: Mr. President and Gentlemen: It is an honor to be here, but as I

am to talk tonight, I will not take up any of your time now. (Applause.)

THE PRESIDENT: The President's Address will be read by Dr. D. M. Griffith, of Owensboro.

Before reading the address of President Ellis, Dr. Griffith said: I did not anticipate being with you save and except that prince of our profession whom you last year selected to the exalted position of President-elect lies, by virtue of a serious attack of angina, in such a condition as to render him physically unable to be here to-day. As a personal friend, he earnestly urged me to come and read his address, and I bring to you his profound and sincere regret that he is unable to be with you to-day, and I beseech for myself your earnest attention while I read his words of wisdom.

DR. GRIFFITH then read President Ellis' Address.

At the conclusion of the address Dr. Curran Pope said: I would like to offer a resolution that this body, irrespective of what the House of Delegates has done, draw suitable resolutions and have them sent to the President, expressing our very great regret at his illness, and also expressing the hope he may be restored to health and activity and be able to take his place among us.

Motion seconded and carried.

THE PRESIDENT: I will appoint on that Committee, Drs. Pope, Kincaid and Anderson.

THE SECRETARY: I have received the following telegram from Dr. J. N. McCormack, sent yesterday:

September 22, 1914.—To the Members of the Kentucky State Medical Association: Your appreciated telegram received. Just home from my operation completely restored and feel as if I have a new lease on life, a life which I propose to rededicate to the profession and people of Kentucky. For more than a year I have been trying to have a suit filed to finally clear up on the record all of the affairs of the State Board of Health. This will involve no difficulty and will be easily managed without your assistance, but I do want your assistance in soliciting the best and strongest men for both houses of the next General Assembly, which is to be one of the most important ever held in the State. Wishing you a great meeting, I am

J. N. McCORMACK.

The reading of papers was proceeded with. The first order was a Symposium on Tuberculosis.

J. W. Kincaid, Catlettsburg, read a paper entitled, "Tuberculosis of the Cervical Glands."

Phillip Kreissl, Chicago, read a paper (by invitation) entitled "Tuberculosis of the Kid-

ney; Its Diagnostic Difficulties and Therapeutic Problems."

B. K. Menifee, Walton, read a paper on "Methods of Early Diagnosis."

Otis Senour, Union, read a paper on "Childhood Infection; Adult Death."

These four papers were discussed together by Drs. Wheeler, Sherrill, Abell, Pope, and the discussion closed by Dr. Kreissl.

W. A. Poole, Henderson, delivered the Oration in Medicine." He selected for his subject, "The Brotherhood of Doctors."

On Motion, the Association adjourned until 2. p. m.

FIRST DAY—AFTERNOON SESSION.

The Association reassembled at 2:00 P. M., and was called to order by the President.

Dr. J. N. Hurty, Indianapolis, Indiana, read a paper (by invitation) entitled, "Alcohol as a Health Problem," which was discussed by Drs. Simpson, Anderson, Senour, Pope, Board, and the discussion closed by the essayist.

W. Barrett Owen, Louisville, read a paper entitled, "Treatment of the Most Frequent Deformities Following Infantile Paralysis."

At this juncture, D. O. Hancock took the Chair and President John J. Moren, Louisville, read a paper entitled, "The Differential Diagnosis of the Paralyzes of Childhood."

These two papers were discussed together by Drs. Pope, Board, Grigsby, Barbour, Preefull and the discussion closed by the author of the paper.

Dr. Louis Hamman, Baltimore, Maryland, read a paper (by invitation) on "Clinical Aspects of Carbohydrate Metabolism," which was discussed by Dr. Simpson, and the discussion closed by the author of the paper.

Dr. M. W. Moore,ynthiana, read a paper entitled "Enuresis in Children."

This paper was discussed by Drs. Barbour, Simpson, Zinke, Gillim, and in closing by the essayist.

On motion, the Association adjourned until 8:00 P. M.

FIRST DAY—EVENING SESSION.

The Association reassembled at 8:00 P. M., in Grace M. E. Church and was called to order by Dr. Arthur T. McCormack.

After several musical selections were rendered by the organist and quartette, Dr. Victor C. Vaughan, President of the American Medical Association, was introduced and delivered an address on "Eradication of Disease."

On motion, a rising vote of thanks was tendered to Dr. Vaughan for his instructive and interesting address.

On motion, the Association adjourned until 9:00 A. M. Thursday.

SEPTEMBER 24—SECOND DAY—MORNING SESSION.

The Association met at 9:00 A. M., and was called to order by the President.

W. L. Heizer, of Bowling Green, gave a talk on "Four Years of Kentucky Vital Statistics."

C. W. Shaw, Alexandria, read a paper entitled, "Rural Hygiene and the Sanitary Privy."

Discussion by Drs. McCormack, Thompson, Anderson, and Reynolds.

THE SECRETARY: I note the presence in the room this morning of a distinguished honorary life member of this Association, who was an active member for many years, who went to another great state association, and has honored it and us and the whole medical profession of the United States. He is President-Elect of the American Medical Association. It is with great pride and great affection that I note the presence of Dr. William L. Rodman, of Philadelphia, and I move that a committee be appointed to escort him to the platform and sit with the President during the session.

Seconded and carried.

THE PRESIDENT: I will appoint as a committee to escort Dr. Rodman to the platform, Drs. McCormack and Bird.

Dr. RODMAN said: Mr. President and Fellow Members of the Kentucky State Medical Association: It is true, as Dr. McCormack has said, at the last meeting of this Association it was my privilege to attend in Maysville, in May, 1898, I was elected upon motion, I believe, by his distinguished father for honorary membership in the Society, an honor which I greatly appreciated then and do now, and second to none of the few which have come to me in my life since.

When I went to Pittsburg on Monday night, I met Dr. Craig, Secretary of the American Medical Association, and he told me that the Kentucky State Medical Association was also in session, and that he was going from Pittsburg to Newport. He also informed me that my distinguished friend, the retiring President, Dr. Roberts, was President of the Association—a gentleman with whom I have for many years enjoyed the warmest, pleasantest and most affectionate relations while we were serving in the medical department of the University of Louisville. I said at once to him, I will go with you. I investigated the trains and found I could not go because I was compelled to deliver a paper before the society yesterday afternoon. I tried to make an exchange, but could not do so. Some lantern slides which I had prepared had to be used and I could not leave with Dr. Craig, but as soon as my paper was read, I took the first train and came here.

No one who has been absent from the State and the people that he has loved so well, in fact with a love that passes all understanding, can possibly understand the feeling I have to-day in returning here and looking into the faces and shaking hands of former friends and colleagues and students that I had the pleasure of teaching in the University of Louisville, and in the Kentucky School of Medicine. It is needless to say, I am glad to be here. I wish I could stay through the entire meeting. It is a busy time of the year when I ought to be at home. I miss my first lecture and first clinic this year, the first time I have ever done such a thing in my professional life. I must hasten back, and the only thing in the world that keeps me from staying through the entire meeting is to see dear, impatient and loving old mother who has passed her eighty-fourth year and is counting the moments until I come. My time must be brief, as I must be back at the beginning of the week.

I thank you indeed for this cordial and hearty reception, which is peculiarly characteristic of Kentuckians. (Applause.)

Eugene L. Fisk, New York City, read a paper (by invitation) entitled, "Periodic Examination of Well Persons."

The paper was discussed by Drs. McClure, Kincaid, Reynolds, Anderson, and the discussion closed by the essayist.

Ap. Morgan Vance, Louisville, read a paper on "Who Should Do Surgery?"

The paper was discussed by Drs. Graham, Sherrill, Toll, Taulbee, Harris, Bonifield, and Moren.

A David Willmoth, Louisville, delivered the Oration on Surgery. He selected for his subject, "Cancerous Growths in Plants and Animal Life; Their Relations to Frequency of Cancer in Man, Illustrated with Lantern Slides."

On motion, the Association adjourned until 2:00 P. M.

SECOND DAY—AFTERNOON SESSION.

The Association reassembled at 2:00 P. M., and was called to order by the President.

M. L. Ravitch, Louisville, read a paper entitled, "Radium in Surgery," which was discussed by Drs. Pope, Jenkins, and in closing by the author of the paper.

E. W. Ryerson, Chicago, read a paper (by invitation) entitled, "Bone Grafting in Pott's Disease," which was discussed by Drs. Abell, Gaither, and in closing by the essayist.

Joseph G. Gaither, Hopkinsville, read a paper entitled, "Uterine Myomata and Malignancy."

On motion, the Association adjourned until 9:00 A. M., Friday.

SEPTEMBER 25—THIRD DAY—MORNING SESSION.

The Association met at 9:30 A. M., and was called to order by Dr. R. C. McChord, Lebanon.

John D. Allen, Louisville, read a paper on "Preparation and Use of Autogenous Vaccines."

The paper was discussed by Drs. Farbach, Caldwell, Simpson, and in closing by the essayist.

On motion, Dr. Moss, Hendersonville, North Carolina, was accorded the privileges of the floor.

H. J. Farbach, Louisville, read a paper entitled, "Sero-Diagnosis of Pregnancy."

J. A. Stueky, Lexington, read a paper on "Trachoma," which was illustrated by numerous stereoptican slides.

Discussed by Drs. Wickliffe, Lederman, McCormack, and the discussion closed by the essayist.

On motion, the Association adjourned until 1:30 P. M.

THIRD DAY—AFTERNOON SESSION.

The Association reassembled at 1:30 P. M., and was called to order by the President.

I. A. Lederman, Louisville, read a paper entitled, "Economic and Social Aspect of Deafness," which was discussed by Drs. Stueky, Murphy, and in closing by the essayist.

The next order was a Symposium on Rheumatism.

Papers were read as follows:

1. "Classification of Joint Diseases," by W. J. Gerding, Newport.

2. "Obscure Rheumatism of Childhood," by S. B. Garrison, Bellevue.

These two papers were discussed by Drs. Lederman, Bledsoe, and in closing by Dr. Garrison.

R. W. Bledsoe, Covington, read a paper entitled, "Treatment of Middle Ear Through the Eustachian Tubes."

This paper was discussed by Dr. Lederman.

H. C. Clark, Falmouth, read a paper entitled, "Injuries of the Parturient Canal," which was discussed by Drs. Jenkins, Averdick, Anderson, Baek, Caldwell, McCormack, and discussion closed by the essayist.

THE SECRETARY: I move that we extend a rising vote of thanks to Dr. Anderson, the active member of the Committee on Scientific Program, who has arranged one of the most successful and effective scientific programs we have had at any session of the Kentucky State Medical Association.

Seconded and carried unanimously.

On motion, the Association adjourned *sine die*.

ARTHUR T. McCORMACK, Secretary.

ORIGINAL ARTICLES

SERO-DIAGNOSIS OF PREGNANCY.*

By H. J. FARBACH, Louisville.

I will first attempt to make plain the fundamentals and principles upon which this aid in the diagnosis of pregnancy is based.

All cells, animal and vegetable, are built on the same basic principles, namely, protoplasm, nucleus, etc. The higher vegetable cells differ decidedly from the higher animal, but we find these differences disappearing one by one as we go down to the lowest forms in both kingdoms. At the bottom, with bacteria on one side and protozoa on the other, there is little left to distinguish the animal from the vegetable.

In the higher forms of animal life, man included, we find there is but little difference in the quantitative side of cell life. All cells in an individual body, exist, begin, grow, functionate and die along the same lines.

The variation in cells comes in their special function and structure. Liver cells vary in their structure and function from heart muscle cells or kidney cells but all three of them have an embryonic form, a matured form and conduct their individual metabolism in much the same way.

Consider a cell as a mass of chemical molecules, with unsatisfied valencies. To some of these unsatisfied molecules are attracted other chemical molecules that when they united with the cell furnish it with the elements demanded for its nutrition.

This union not only furnishes the food or living base for the cell but it is followed by the production of other molecules that are of no further use to the cell and are consequently thrown off: water, carbon dioxide, nitrogen, radicles, etc., are some of the ashes, as it were, of this cellular action.

This process of building up cell molecule and tearing down food molecules is the process of metabolism.

There are other unions made by the cell molecules than those that have to do with nutrition. Another cell chemical, different from the one that combined with a food stuff, unites with other chemicals in the circulation and from this union there is produced a substance not only necessary to the cell itself but to the whole organism. This comprises the function of the cell and groups of cell with the same special function form what we term organs. A cell is able to carry out a special function because of its special structure and it is thus identified as a specific cell.

We have proof of this special structure not only from a secretory standpoint as bile from

the liver, pepsin from the stomach; but in the experimentation of chemo-therapy it is shown that certain tissue and organs attract and hold certain chemicals, dye stuffs, while others do not hold that particular chemical, but will hold another that would not unite with the former.

So that while all cells of the body have some things in common, as anabolism and katabolism, they differ from one another along other lines as in special function. Now this special functioning action of a cell is due to a substance with a ferment like quality.

In some cells this ferment is synthetical in action, it makes higher compounds out of lower ones, in others it is analytical, it breaks high compounds down into lower ones. This ferment like substance then gives a cell its specificity.

Nature has so arranged the general economy that normally the blood contains all the substances needed by the different cells for their different functions. The cells in their self-metabolistic action and in their specific functioning action do not eliminate any substance that is not of the same nature as the blood plasma. She provides the chemical necessary through the gastro-intestinal tract. Here foreign substances are so changed as to be compatible with the body economy. She has placed a special guard, the liver, over this source of supply, so that if any substance that would not be of the proper kind should be taken up by the portal circulation this organ would eliminate or destroy it and thus prevent it from entering the general circulation.

On the other hand if the cells, by any abnormal process, elaborate substances that would tend to derange the normal content of the blood plasma, if allowed to enter the circulation, are so modified by the lymphatic system as to eliminate these properties.

Thus under normal circumstances nature keeps the qualitative composition of blood plasma constant

In the past few years the subcutaneous, the intramuscular and the intravenous routes of medication and experimentation have been used extensively. Investigation has shown that foreign substances other than medicinal are at times found in the circulation. How are these foreign products that have entered by routes over which there are no sentries, taken care of?

Abderhalden in his studies of the metabolistic processes of cells has given us the best explanation and on this explanation is based a new line of diagnostic investigation.

The preliminary experimentation along these lines is well known. Animals were injected with various substances, albumin, car-

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

bohydrates, gliadin, edestin; and a few days later the presence in the circulation of a specific ferment for the substance injected, could be demonstrated.

These ferments were specific in as much as the one following proteid split up proteid and proteid only; the one following albumin, albumin and only the same group albumin as was used in the injection. These ferments are most likely produced through the agency of the leucocytes. That blood plasma and leucocytes have a digestive like action has been known for a long time and some investigators argue that it is in this manner that small amounts of foreign protein that gets in the circulation is handled. That this sort of ferment is non-specific and that the specific ones are produced either by some leucocytic action or by some change in the arrangement of the molecules in the fixed cells of the body.

The question of the specificity of these ferments has not been absolutely answered. This of course is of a great deal of importance but for practical purposes we have to depend on the results reported by Abderhalden, Lampe and Papazula. They have found that these ferments are specific for organic groups and not the individual members of the group. This is all we ask for at present.

In brief summary, our basis of operation is that the body cells conduct their metabolism and special function through ferments normally present. That the general economy keeps the plasma content uniform and constant through sentinals placed over sources of supply and over lymph return. That if a substance foreign to normal plasma does enter the circulation there is elaborated and present in the blood stream a specific enzyme-like substance that reduces this foreign agent to compounds that can be handled by the fixed cells either in their metabolism or eliminated as waste.

Investigation having shown that during pregnancy cells of the chronic villi are present in the circulation of the mother, the question that presents itself to Abderhalden was, does nature handle this foreign substance by a specific ferment.

His results seemed to answer in the affirmative. Later investigation, however, showed that like results were obtained in pregnant animals whose placenta contained no chorionic villi. So the source of this specific ferment is not the cast-off villi cells. The most accepted theory of the origin is that there is a change in the metabolism of the maternal cells in the region of the placenta, that gives rise to a substance foreign to normal plasma.

The Test: Like most laboratory procedures, this test can be made bunglesome and unreliable by a lot of unnecessary technic.

Briefly the test is carried out as follows.

Placental tissue is obtained, the fresher the better, and freed from all blood. It is then cut into small pieces and boiled in dilute acetic acid, the solution being changed several times during the process of boiling. When properly prepared the last water in which it was boiled will not give a color reaction with ninhydrin.

The tissue is then ready for use and is kept in sterile sealed containers, covering the water in the container with a good layer of toluol. This tissue must be kept sterile.

The next step is to prepare the dialysing thimbles. Let them soak in water at room temperature for from four to six hours. Then put them in boiling water for five minutes. The proper thimble is one that will not allow albumin to pass through but will pass peptone. To ascertain this, to each thimble add a small amount of egg albumin in distilled sterile water. Cover with a layer of toluol. Carefully wash the outside of the thimble and place in a container filled with distilled water enough to reach a point a little above the level of the solution in the thimble. Cover this too with toluol. Place in an incubator at 37 C. for about sixteen hours and then test the water in the containers for albumin. I prefer the ninhydrin test. Take 5 c.c. of the fluid and 0.1 c.c. of a 1 per cent solution of ninhydrin. Boil for one minute and allow to cool. If albumin is present the solution turns blue in a few minutes. If absent it remains clear or turns yellow.

All thimbles that give a negative test are saved the others are thrown away. Some thimbles will pass neither albumin or peptone. They must now be tested for peptone. Take the thimbles that passed the albumin test and place them in running water for sixteen hours. Always keep in mind throughout this whole procedure, *that foreign organic substances and bacteria are the most frequent sources of error.*

To the cleansed thimbles add 5 c.c. of a solution of peptone. I use a 1:100 to a 1:1000 of the peptone put out by La Roche firm. This covered with a layer of toluol, the outside of the thimble carefully washed and placed in a container the same as for the albumin test. Allow to incubate for sixteen to twenty-four hours and test the dialysate for peptone. The ninhydrin solution is used the same as before. This time the solution should give a positive reaction because we want thimble that will pass peptone but not albumin.

The thimbles that test true are then washed again thoroughly and are ready for use. In keeping thimbles for future use the utmost care must be taken. They must be sterile, placed in sterile water and kept sealed. The other precautions I use is to add chloroform

to the water and cover the whole with a good layer of toluol and keep in an ice box.

If the thimbles have stood a long time since testing it is better to retest them before using.

The reagents used in the test are four, namely; placenta tissue, the patient's serum, ninhydrin solution and toluol.

The placental tissue: I have touched on this before. The placenta must be fresh. Autolysis renders them practically worthless. For this reason a placental tissue in powder form as put up by Parke Davis Co., is more convenient and perhaps more reliable.

The cord and membranes are removed and the section to be used is washed repeatedly to remove all traces of blood. The presence of haemoglobin in this reagent is a potent source of error. The tissue is cut into small pieces, about 1 c.c. square, and again washed to remove last trace of blood. It is then boiled as before mentioned so as to coagulate the albumin promptly and properly. After preparation enough for each test is placed in a small sterile bottle in sterile chloroform water covered with toluol sealed and placed in an ice box. It keeps a long time.

The Serum: Twenty c.c. of blood are taken directly from a vein under aseptic surroundings and placed in a sterile tube. Allow clotting to take place about ten minutes and then centrifuge to remove all red cells from the serum. Four or five c.c. are needed for the test. Remove this serum with a sterile pipette, seal and place in the ice box. I never use a serum over twenty-four hours old and as fresh as possible. Never use a serum that shows the presence of red cells or haemoglobin.

Ninhydrin Solution: This is a 1 per cent solution in sterile distilled water.

Toluol: Use only the very best product obtainable.

The Actual Test: There are two methods, the optic and the dialytic. With the former I have had no experience. The latter is conducted as follows:

With reagents and glassware prepared as described empty the contents of one of the bottles containing the placental tissue in a sterile dish and wash with distilled sterile water until all traces of the chloroform are removed. Rub the tissue in a sterile mortar into a pulp, picking out any dense fibrous pieces or strings. Take one gram of this pulp and place it in a tested thimble and add four or five c.c. of the patient's serum. Cover with toluol and carefully wash the outside of the thimble. Place in a container filled with sterile distilled water, the same as in testing the thimbles, and cover this with a good layer of toluol. Cover the whole with a piece of sterile gauze and place in an incubator at 37° for eighteen to twenty-four hours. Test the

dialysate with the ninhydrin solution. Using 0.1 c.c. of ninhydrin solution to 5 c.c. of the dialysate. A positive reaction turns blue within thirty minutes.

Sources of Error: Any bacterial action in the thimble or surrounding medium will give an erroneous reading. Consequently glassware and reagents must be sterile. This error may take place within the thimble also.

The thimbles must have the proper dialyzability, pass peptone and retain albumin.

The serum and placental tissue must be red cell and haemoglobin free.

Serum must be collected under asepsis and kept sterile. Serum over twenty-four hours old is not reliable.

This should be one of the earliest signs of pregnancy, being present at times as early as the second week. It usually disappears from ten to twenty days after the death or discharge of the fetus.

What is the practical significance of the test?

1. It is one of, if not the earliest, signs of pregnancy.

2. In unmarried women where pregnancy or the liability is denied and still clinical evidence points to a conception.

3. In nursing mothers.

4. In tubal pregnancy.

5. Where the differentiation between a pregnancy and a fibroid can not be determined.

6. In the beginning of the menopause, pregnancy is a question at times.

7. From a medico-legal standpoint it assumes some importance, particularly in cases where miscarriage from injury is claimed and in criminal abortions.

Later investigations at the hands of numerous competent workers do not substantiate Abderhalden's contentions as to the specificity of the test.

A laboratory procedure to be of worth must have a positive or negative side that is relatively absolute. In other words it must never be, or at least in a very small percentage of cases, negative, where the clinical evidence of the condition makes it positive or vice versa.

There is neither a positiveness nor negativeness that is absolute in this test. It has been reported upon by men whose painstaking carefulness can not be doubted and they report not from one locality but from many that the test has given negative results where pregnancy was evident and later proven by the birth of a child. But what renders the test practically worthless is that positive results are obtained where pregnancy did not and could not exist. In numerous instances positive results have been obtained with the serum of males.

Aberhalden's contentions that these errors are due to errors of technic cannot be upheld in the face of the evidence against them. From our present understanding we must place little reliance on the result obtained by our present technic.

I sincerely believe investigation should be continued along this line, different technic tried until the test can be made reliable. When once dependable it will add a very valuable diagnostic measure to our present procedures.

Meningitis After Contusion of Skull or Spine.

—Markull summarizes from the literature several cases of serous, purulent or tuberculous meningitis developing apparently in connection with a trauma. He follows them with two cases from his own practice in which purulent spinal meningitis set in about the sixth day after a fall injuring both skull and spine and followed by unconsciousness for a time. The skin was not broken in either case but one of the men had had a boil on the neck incised about two months before. No streptococci or staphylococci could be cultivated from the spinal fluid in either case. A few Jaeger's cocci were found in one. The purulent meningitis in this case subsided under lumbar puncture twice repeated; 15 c.c. and 10.5 c.c. of the fluid were evacuated with a fifteen-day interval and relief was apparent at once. The pains and hyperesthesia were so intense in this case that morphin was required. The fever was intermittent, reaching 38.7 C. at times; pulse down to 64, but no paralysis. The other patient had fractured his skull but the meningitis seemed to be limited to the spinal region. Only briefly transient relief was obtained by lumbar puncture and laminectomy was then done with excellent outcome, complete recovery soon following. Laminectomy solely to drain the subdural space has only rarely been done, but the success in this case encourages resort to it when the symptoms persist practically unmodified by lumbar puncture and the first merely serous or sero-purulent exudate becomes more exclusively purulent.

Hemiatrophy of Cerebellum.—Taft and Morse report a case of focal unilateral cerebellar disease of long standing (months or years) apparently quiescent (no signs of exudation) and beyond question due in large measure to arterial thrombosis (no histologic or clinical evidences of syphilis; Wassermann reaction negative in pericardial fluid post mortem). The lesion was not in the nature of an old cyst of softening, but rather the result of gradual shrinkage and induration, possibly due to an unusually gradual thrombosis.

COUNTY SOCIETY REPORTS

Christian—The Christian County Medical Society met in regular session Tuesday, Oct. 20th, in the Avalon, Hopkinsville, with President Watts presiding.

Those present were: Drs. Watts, Rice, Beazley, Bell, Keith, Stites, Rozzell, Rudd, Gates, Barker, Reynolds, Lovin, Gaither, Lacy, Harned, Sargent, Barnes and Sandbach.

After the reading and adoption of the minutes of the last meeting the Chair called for report of cases of which the following were reported:

J. H. Rice reported a case of Typhoid fever in a 13-year old girl. A rather unusual type.

J. A. Bell reported a case of Puerperal fever, of a gonorrhoeal character.

H. W. Watts reported a case of Typhoid fever in which the fever would rise to 104 degrees F. and the pulse never over 90 and as low as 54.

These cases were all discussed at length by Drs. Stites, Rozzell, Bell, Keith, Rudd, Rice, Reynolds, Barker and Sandbach.

Dr. Barker asked for an opinion on the "Twilight Sleep." Discussed by Drs. Keith, Rudd, Reynolds, Sandbach and Stites. All agreed that it was an old discarded American remedy.

J. H. Rice read a very interesting paper on Acute Articular Rheumatism. After discussing the subject in the broadest sense he dwelt upon rheumatism in children and called particular attention to Tonsillitis, so-called "Growing Pains," etc.

T. D. Rudd read a paper on Pneumonia. He dwelt particularly upon Treatment, recommending nitrate of sodium, nitroglycerine and pilocarpin.

Discussed by Drs. Bell, Barker, Reynolds, Rozzell and Rice and Rudd in closing.

The Secretary announced that Dr. A. Sargent would be on program for the next meeting. We stood adjourned.

W. S. SANDBACK, Secretary.

Eagle Valley—The regular meeting of the Eagle Valley Medical Society was held at Sanders, October 15th. Meeting called to order by Vice President George Purdy; Dr. J. W. Botts, acting secretary.

A. D. Willmoth, read a paper: "Report of Cases of Stone in Urinary Tract and Method of Removal." Radiograms of these cases shown by Dr. Curran Pope. Discussion opened by Dr. A. P. Cole, of Cincinnati. Drs. J. Edward Pirrung and Allen Donaldson took part in this discussion.

Afternoon Session.

Election of officers: George Purdy elected President; J. Edward Pirrung, Vice-President; Allen Donaldson, Secretary.

J. Edward Pirrung read a paper: "Fractures In and About the Ankle Joint." with lantern

slides. Discussion opened by Dr. Willmoth.

Curran Pope reported a new method of palpating the kidney.

ALLEN DONALDSON, Secretary.

Taylor—The Taylor County Medical Society met in the office of the Secretary-President, Drs. O. M. Kelsay, Black, Reesor, Buchanan, Buckner, Gowdy and Atkinson. Dr. Clarence R. Bass, of Cimmarron, N. M. visiting.

J. L. Atkinson read a paper "The Eebolic Action of Pituitrin." The conclusions arrived at by the essayist were that Pituitrin is a valuable agent used in selected cases, but advised caution.

The consensus of opinion expressed by all the members was in accord with that of the essayist.

J. B. Buchanan raised the question as to the value of pituitrin in inevitable abortion, to hasten the expulsion of the uterine contents. No one had used the agent in such a case for the purpose mentioned, and several expressed reluctance in adopting such treatment. Dr. Atkinson thought it might be used to advantage for control of hemorrhage in abortions.

W. T. Buckner read a paper "When to Use Vaccines and When to Use Serums." The essayist gave a general rule to follow: "Give serums in acute conditions and vaccines in sub-acute and chronic conditions, and prevention of disease." Dr. Buckner gave an interesting account of the use and results of serums and vaccines in hospital practice.

O. R. Reesor reported a case of tuberculosis in which he gave mixed infection vaccine with very gratifying results. Treatment begun Sept. 2nd, and mixed infection symptoms have all disappeared.

Society adjourned to meet at stated time in November. All the practicing physicians in the county are now members of the Society.

J. L. ATKINSON, Secretary.

Operations on the Thymus for Goiter.—**Baberer** has resected the thymus in twenty-one cases, including eight cases of exophthalmic goiter, seven of ordinary goiter with unduly large thymus and a case of severe myasthenia. In all but two cases the thyroid was resected too. The postoperative improvement in the exophthalmic goiter cases was particularly striking and justifies reduction of the thymus whenever it is found unduly large at the operation on the thyroid. His experience has been that a combined partial operation on both the thyroid and the thymus gives better results than on either alone. The postoperative course is better when the thymus has been resected than when the thyroid alone is resected and the unduly large thyroid left undisturbed. Reduction of the thymus does not seem to entail any untoward consequences, even for the growing organism.

Opening Abdomen for Appendicectomy.—The principles underlying Edington's method are: (1) Division of the posterior sheath of the rectus transversely, in the direction of the aponeurotic fibers, and (2) preservation of the muscle itself to form a support to the scar. The method of operation consists in exposing the rectus muscle loosening it in its sheath, retracting toward the middle line, and transverse division of the posterior sheath and peritoneum. After the appendix has been removed and the posterior sheath and peritoneum sutured, the rectus is allowed to fall back into its normal position, and the anterior sheath and superficial wound closed.

Pneumograph, New Instrument.—The instrument devised by Knauer and Maloney consists of two parts, a chest piece to which the respiratory movements are communicated and a recording apparatus which writes those movements. The tambours contain no rubber to leak. The recording paper needs not to be blackeued and neither varnishing nor drying is necessary. A roll is used instead of a single sheet, so that observations may be continued for prolonged periods. The driving machinery is practically self-regulating. The writing point pressure is self-adjusting. The instrument is said to make the recording of the respiration movement as simple as is the application of electricity. This pneumograph is of service in all psychogenic speech disturbances such as stammering, aphonia spastica, etc., cases in which breathing exercises are indicated; in the treatment of obsessions and psychogenic fears, which can be beneficially influenced by methodical regulation of the rate and character of the respiratory movements; and in the teaching of conscious control of muscular movements. The machine is also of use in obtaining an index to emotional reactions in mental states.

Tardy Results of Wounds in War.—**Coenen** remarks that not much has been published on the tardy results of injury received in war, but the scar is liable to become the seat of a cancer late in life. This happened in a case he reports in detail, a cancer developing in 1913 in the scar on the back of the hand injured in a bomb explosion in 1886. The man emerged otherwise unscathed from three campaigns to have his arm amputated at 74. Coenen knows of five other cases of cancer on the back of the hand consecutive to trauma or irritation of a wart. Cancer of the palm is rare. Michael, who has compiled sixty-four cases of cancer on the back of the hand, could find only three in which cancer had developed in the palm of the hand, but Grawitz has encountered two since then in young farmhands. Coenen comments on the frequency of wounds of the hand in modern warfare; he had 104 cases in his charge during the first Balkan War and forty-two in the second.

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ORIGINAL ARTICLES

PRESENT STATUS OF RECTAL SURGERY.

By GRANVILLE S. HANES, Louisville.

That interest in the study of diseases affecting the lower bowel should be wanting is very natural. It is not possible that any subject can be well understood until it has been thoroughly analyzed and investigated from every important viewpoint.

Imagine one who is in great physical distress refusing to consult a physician because it would be necessary to see and examine the parts affected. If it were the hand, the foot or the tongue the patient could not exhibit either with sufficient promptness. On the other hand imagine a doctor who is supposed to have a reasonable understanding of human anatomy, physiology and also the diseases affecting the various parts of the body, when consulted for any condition about the rectum exhibiting no interest in such a case, not even offering a suggestion as to the necessity for an examination. Without any knowledge of the patient's real condition he advises the use of ointments, the application of heat or some ineffective treatment and thus dismiss the case.

Only recently I operated upon a lady whose husband was so embarrassed, because she had a rectal affection, that he told his friends she was operated for a tumor on her arm and that it was done by a general surgeon. This foolish timidity is not possessed alone by patients but physicians are often as anxious to dismiss the investigation and treatment of rectal cases as are the patients.

Barring the fact that the function of the

lower bowel is the source of more or less embarrassment to patients who are naturally timid the profession is responsible for the gross neglect and careless treatment of many patients who are affected with diseases in the lower bowel.

The difficulty primarily, so far as the attitude of the doctor is concerned, is due to a fault in our educational system. If our colleges had given the attention to rectal diseases in proportion to their frequency and importance that they have given to diseases affecting other parts of the body we would now occupy an entirely different position so far as our understanding of this part of the intestinal tract is concerned.

We can say correctly that we are now in the beginning of what we might term a new era in the matter of educating students upon this subject and subsequently their influence upon the public when they have entered upon their professional careers. A great many colleges are providing for special instruction upon diseases affecting the lower bowel and it surely can not be a great while until all medical institutions will see the necessity of pursuing a similar course.

When physicians have been instructed upon the various forms of diseases affecting the rectum, and have seen such conditions operated upon or otherwise treated, they will be in a position to deal with these diseases with the same degree of familiarity and skill that they do with other well known affections of the body. When a student receives instruction in this branch of surgery it signifies that he should become a specialist no more than that he should become a gynecologist because he has received instruction upon that subject. His education should be sufficiently compre-

hensive and thorough to enable him to advise patients who have rectal affections just as intelligently as he would those who seek advice in any other department of medicine or surgery. When physicians have been educated in this branch of surgery as they are in others they will be much more capable of judging correctly concerning their own limitations in dealing with certain conditions and thus avoid disaster to both patients and themselves.

There are a great many doctors who desire and intend to deal honestly with their patients but they have been so completely misled as to the apparent simplicity and lack of serious danger connected with the management of rectal diseases that they often do irreparable harm and may even cause death where a more thorough knowledge of the subject would have been a complete barrier against such unwarranted procedures.

We see patients, for instance, with partial or total fecal incontinence following an operation for hemorrhoids, rectal fistula or some other comparatively simple affection; or, those who have been operated for hemorrhoids may be affected with cancer; this error is not infrequent. Again, patients are treated for benign types of rectal stricture when they have a typical, malignant fibrinous constriction. Patients are often allowed to become emaciated and completely exhausted with no thought of rectal examination until one astringent after another, and other agents, have been administered. After all hope in every other direction has been abandoned then the rectum may be examined. An examination of the bowel will often reveal an amebic type of ulceration or some simple lesion that can be easily treated by local measures which could never yield to medicaments administered by the mouth. The same can be said regarding the treatment of various types of constipation. How many patients are examined when they seek medical advice for constipation? Iron and various tonics are often given for anemia when a little time and careful examination would show a small hemorrhage from the bowel after each movement. When the correct local treatment is administered the patient's health is completely restored.

If diseases affecting the lower extremity of the alimentary tract were rare and comparatively simple there would be an excuse for treating the subject so lightly. On the contrary there are no tissues subject to a wider range of pathological affections than those about the rectum; nor can disease in any part of the body produce greater pain, distress and more nervousness than the tissues about the fundament. And, also, one of the most horrible diseases affecting human flesh is alarmingly frequent in this portion of the body and is becoming even more frequent. If these are

true statements, can this subject be brushed aside as one that deserves little or no attention?

The second, though trivial, excuse for neglecting patients affected with rectal diseases is that it is a little more difficult to expose and examine these parts than is otherwise necessary. Also, the instruments for examinations and the positions of the patients may require a little more time and manipulation than in ordinary cases; but none of these excuses have any weight when there is real enthusiasm reinforced by a fair knowledge of the subject.

We do not allow ourselves to appreciate the great importance the sigmoid and rectum bear to our comfort and even our lives. This portion of the alimentary tract performs a daily function that is necessary for our existence. We have the gravest lamentations when the function of an eye or an arm or a leg is impaired or when either of these parts may, from necessity, be removed from the body, yet there is a duplicate of each with which an individual may be comparatively comfortable. Proper functioning of the lower portion of the bowel is essential for comfort and any artificial substitution is attended with the greatest amount of annoyance and distress. Why we should exhibit such carelessness in the protection and preservation of organs so necessary to our physical comfort it is difficult to understand. It is my prediction that the present conditions, as they relate to this subject, will be rapidly altered within the next few years.

Referring now briefly to a few anatomical points of interest I will say that the levator ani and sphincter anal muscles have seldom been looked upon as agents playing any part relative to this subject except that of controlling the outlet of the bowel. I am very sure it will be proven that one of the most frequent sources of pain and discomfort in the anal region and, also, pain reflected to other parts of the body, are due to chronic exaggerated contraction of the sphincter muscles upon a low grade of diseased tissue in the anal outlet. Similar physical and pathological conditions are a prolific source of nervous phenomena in many patients. We do not attach the proper clinical significance to over-contraction of these muscles. Such a condition always indicates a pathology in the anal structures except that there may rarely be exaggerated contractions due to reflexed stimuli. I have seen patients who were exceedingly uncomfortable and many times in great pain when the muscles were tightly contracted upon anal tissues that showed no evidence of any kind of a lesion except there might be a slight tendency to granulation in the upper extremity of the anal canal. Of course there would be but little, if any, discomfort to the

patient if no pathology was present, and there would be but little discomfort if the muscles did not contract upon the unhealthy tissues. It is the latter point that I now refer to especially for the reason that I wish to call attention to the fact that the mechanical part played by the sphincter muscles in these cases is of great importance and should not escape our attention.

The teaching has been universal that the chief muscle engaged in controlling the outlet of the bowel is the external sphincter. I have no doubt that there are many who will oppose my view when I assert that this muscle is not the one employed by Nature to perform such a function, but that this duty is delegated almost entirely to the levator ani muscle. Such a contention can be proven by destroying the function of the external sphincter muscle and also by manipulation of all the muscles surrounding the anal canal. If the external sphincter is destroyed and the parts otherwise remain normal the patient will have good control. On the contrary, if the levator ani muscle is destroyed the control of the outlet of the bowel is very feeble and unreliable. It will be observed also that the internal anal orifice offers much greater resistance to dilatation than does the external anal opening. It is Nature's object to place the greatest barrier to incontinence at the most advantageous point. This is undoubtedly at the internal anal opening. The levator ani is completely responsible for the contraction of the anal canal at its upper extremity and it is also in this particular zone that we have the greatest number and most highly sensitive nerves. If fecal material once enters the internal anal orifice it will most certainly continue its course through the canal to its outlet for the reason that the muscular resistance is less in its lower extremity and the nerves are not so numerous or highly developed. The levator ani is by far the most important muscle found in the pelvic floor.

There are a great many who believe that there is a "third sphincter" at the junction of the rectum and sigmoid. It is plain to see upon proctoscopic examination, that such a group of muscle fibres does not exist but that this idea originated from the fact that there is usually considerable angulation of the bowel at this point.

It is believed by some that in extirpation of the rectum, by any method, from below, a portion of the descending colon can be brought down in the manner just described. We know that in these cases the operator was dealing with a redundant sigmoid which might have a length varying between twelve and thirty inches and that it was this redundancy which led to the belief that the descending colon was brought down into view. Since

the descending colon usually has no mesentery, and, if any, it is not more than one or two inches it is easy to see that it would be utterly impossible to detach and bring any part of the descending gut down into the pelvis.

The advances that have been of greatest service in rectal examinations are found in the instrumental devices and postures of the patient. The index finger is one of the chief sources from which we may obtain information concerning the condition of anal structures and also the lower portion of the rectum, but we know now, however, that much valuable and accurate information can be obtained in rectal explorations that lie entirely beyond the limitations of digital examination.

Allingham says, "We very seldom use a speculum in diagnosis, yet in some cases it is a valuable aid if an anesthetic has to be administered." Mathew, Ball and others express equal confidence in this method of examination. All of the earlier investigators recognize the lack of utility in every one of the numerous specula that come under their observation, therefore, their greater dependence upon digital examination.

That the two essentials for rectal examination should have escaped discovery for such a great length of time is difficult to conceive. All that was necessary in the first place was to employ some instrument that would hold apart the entire circumference of the anal walls and thus prevent segments of anal tissue from dropping into view and interfering with observations higher up. And, in the second place, it was necessary that the very pliable walls of the rectum and sigmoid should be held completely separated to admit of thorough inspection of the entire mucosa. The tubular instrument solved the problem as to the best means of holding open the anal canal while there are three methods that may be employed in separating and holding apart the walls of the rectum and sigmoid.

The first I shall mention consists in allowing the patient to occupy either the right or left lateral position with the legs flexed as in the Sims posture and the hips elevated, if desired. This posture is the most comfortable for the patient but the least desirable for accurate examination.

Theories seldom fit snugly into the experiences of actual practice and I know no more striking illustration of this fact than in the method of examination just referred to. It would appear that the conditions were all that could be desired for thorough examination, with the patient in an easy position, a tubular instrument and the proper kind of illumination. Disappointment develops in the fact that the walls of the rectum and sigmoid are not distended except there is some

intra intestinal agent to force them apart. If the rectum is filled with gas or liquid they will escape as soon as the obturator is removed from the proctoscope and then the walls are forced into immediate apposition. We find that a small area of the mucosa drops into the distal end of the instrument and obstructs further view. Since the only way that the mucous membrane of the rectum and sigmoid can be examined with tubular instruments is to have the walls thoroughly separated by some substance in the intestinal lumen a glass window has been made to fit air tight into the proximal end of the proctoscope and to this is an attachment by which air can be forced into the rectum and separate opposing mucous surfaces.

This method of intra intestinal examination is unsatisfactory for many reasons. In the first place the air will escape from the rectum around the proctoscope if the sphincter muscles are not capable of contracting very snugly around the tube. The air that is being forced in has a constant tendency to make its way higher up into the bowel which necessitates the introduction of a new supply when the walls begin to collapse. If any fluid flows back into the distal end of the instrument it is more or less obstructive to the view. The glass window is easily clouded and on account of its presence in the proximal end of the tube vision is often interfered with. The air is often forced in under such great pressure necessary to keep the rectal walls separated that it passes high up into the bowel and subsequent to the examination the patient may have a great deal of pain in the abdomen. The greatest objection to this method of examination is the inconvenience of having to remove the window when it becomes necessary to use forceps with cotton to cleanse the soiled mucosa, to make applications to the mucous membrane, or perform any kind of operation. It is very difficult to keep the intestinal walls separated when the examination is high up since intra-abdominal pressure is very great.

The second position for examination with tubular instruments is to have the patient assume the knee chest posture. This is a great improvement over the first though it has a number of objectionable features. In the first place the knee chest position is one that is very difficult to teach the patient to assume and when in the correct posture it is difficult to remain so. It is exceedingly embarrassing for a lady to climb upon a table and assume such an awkward position which stimulates anything except pleasant memories of a doctor's office. The patient soon tires of the position and as soon as there is a little pain experienced the knees and elbows slide away from each other and the patient is out of po-

sition. The operator is in a very strained attitude, especially till the distal end of the instrument passes in front of the sacral promontory and as a result allows the proximal end to be brought nearer a perpendicular line. No liquids can be easily poured into the bowel through the proctoscope. It is not infrequent that the glass window has to be inserted into the proctoscope and air forced in to get proper distention of the bowel wall.

The third position for examinations with the tubular instrument is the inverted posture. This position was suggested by myself a few years ago and has been employed exclusively in examinations with tubular instruments to the present time. In recommending the inverted position its merits must be compared with those of other postures. The position itself is easily assumed by the patient. If in bed the patient can turn directly across and drag the body off on one or the other side allowing the elbows to rest on a pillow placed on the floor one or more feet from the side of the bed. The thighs are supported on the edge of the bed and the elbows rest firmly on a pillow on the floor. The mistake should not be made to place the pillows too near the edge of the bed as it is not necessary for the head and shoulders to be directly under the hips. In fact, the position is far better if the head and shoulders are a considerable distance forward to that of the hips. This allows the patient to hold the head in a horizontal posture and when the back sags down in the proper fashion the maximum amount of room is provided for the reception of the intestines near the diaphragm. It is this object that is most desired and it is in this position that the patient can most easily allow the back to sag and the abdominal muscles to relax. Of course, any chair or table in one's office can be utilized for making examinations in this way. The patient can remain more comfortable in this position than in the correct knee chest posture. If manipulation causes discomfort it is very difficult for the patient to interfere with the examination by changing her posture. The surgeon stands up over the patient and looks down into the proctoscope, while in the knee chest posture he is in a very uncomfortable position which must influence more or less the accuracy of the investigation. If the patient is advised about relaxation and is placed in the position properly the gravitation of the viscera towards the diaphragm is so complete that the atmospheric pressure thoroughly distends the walls of the bowel and it is seldom, if ever, necessary to introduce air by force. Since the glass window is not used there is no difficulty in passing instruments through the proctoscope for cleansing the bowel, making applications, procuring specimens for examina-

tions, operating for small polypoid growths, etc. There is no position that produces such a tendency to relaxation of all the muscles in the pelvic floor as the one I have described. When the intestines sag toward the chest and pull on the rectum there is such a great tendency toward the formation of a vacuum in this organ it is not infrequent that the air rushes into the rectum before the tubular instrument is introduced. Of course, this occurs only in those cases where there is no irritability about the anal muscles and they are in no wise hypertrophied and irritably contracted.

It is very frequently true that there is so much irritability and hypertrophy about the anal muscles that it is impossible to introduce a proctoscope without causing the most severe pain. It is in these cases that we need aid in relaxation of the anal muscles from every possible source. The posture, as I have shown, is one of the most important factors in the accomplishment of this end. The most effective means of securing relaxation of the sphincter muscles is obtained by applying 15 per cent. or 20 per cent. solution of cocaine on a few fibres of cotton, rolled upon the end of a toothpick, to the anal tissues all along the canal, especially at its internal orifice. With the patient in the inverted posture, the cocaine is not lost, as the greater portion is at first squeezed out of the cotton when the pick is gently forced into the very tight anal orifice. By very gentle manipulation the cocaine that remains on the depression at the external anal opening follows the pick into the canal and the muscles are thus relaxed to such an extent that tubular instruments can often be introduced with but little pain, where otherwise the patient would be in such distress that an examination would be almost impossible. An examination of the rectum and sigmoid can not be done with any degree of success when the patient is contracting the abdomen and complaining of great pain.

If it is desirable to introduce water into the bowel or any medicated solution it can be poured through the proctoscope into the rectum with no difficulty. When there is necessity for the introduction of large quantities of liquid into the colon no other position is equal to this posture. As the water passes to a greater distance along the colon it forces the gas contained therein toward the rectal outlet and there it escapes through the tube. As the gas is forced out of the bowel, so will its capacity increase for fluids. In the inverted posture the patient can be perfectly protected from any exposure as the examining sheet rests upon the legs and buttocks in such a way as to completely cover the surrounding parts.

When long sigmoidoscopes were first placed in the hands of the profession a number of fa-

talities resulted from attempts to introduce the instruments well up into the bowel. They were especially dangerous when an attempt was made to introduce them with the patient in the lateral position. With the patient in the knee chest or inverted position no one who has the slightest conception of the anatomical arrangement of the bowel could do it harm. As soon as the end of the instrument passes into the rectum the walls of the bowel must be distended and as the distal end of the instrument passes up the bowel it is never forced against the wall at any point but is made to follow along the distended lumen.

When tubular instruments were first employed in the rectum it was believed that the best examinations could often be made by anesthetizing patients. We know now that the facts are positively to the contrary. Such examinations can best be made when the patient is not anesthetized. It was generally believed in the early history of proctoscopes, that tubes of sufficient length could be introduced through the rectum and sigmoid and up into the colon. In our investigations on the introduction of flexible and non-flexible instruments into the bowel in 1908 it was shown that no instrument was passed its entire length into the bowel that it had entered a redundant sigmoid and had lifted it toward or even to the diaphragm and that in such instances not even the upper half of the sigmoid had been explored.

I have dwelt upon the employment of different postures and the use of tubular instruments in examinations of the rectum and sigmoid because they have enabled us to study pathological conditions in the upper rectum and sigmoid in a manner unknown before.

Rectal bougies, tubes, probes and even the hand were formerly employed to assist in the study of diseased conditions higher up in the bowel but such methods have been abandoned and are now obsolete.

The X-ray is a great aid in studying certain conditions about the rectum. Where there has been extensive abscess formation and pus has made its way into distant structures this method will always give valuable information. I have seen cases of fistula that I am sure I could not have treated successfully if it had not been for the assistance of the X-ray. Tumors high up, strictures, adhesions and fistulous openings into the bladder can often be studied with great profit by this method.

I have not considered in this paper the various types of infection that occur in the mucous membrane of the lower bowel and surrounding structures. Neither have I referred to pruritus ani which is a local affection and is of bacterial origin. Syphilis often appears

in this region of the body and is many times so disguised that the real nature of the disease is not discovered.

The advances that are now in progress in laboratory diagnoses and treatments with vaccines and salvarsan will, no doubt, be of great assistance in the entire management of rectal diseases.

DISCUSSION.

Bernard Asman: I am sure I am voicing the sentiments of every one present when I say that we have been not only highly entertained, but also instructed by this splendid essay. I do not remember ever before feeling so much like saying—"Those are just my sentiments, too," as I do now.

The hour is so late that I will not attempt to take up in detail the many points so ably brought out in the paper. However, I cannot refrain from saying a word or two in regard to the point made by the doctor in beginning his paper; that is, the neglect of rectal surgery. Not that I can add anything to what he has said, but it should be emphasized. The question, why is rectal surgery so neglected, is one that has concerned me much and often. It is neglected, not alone by the medical profession, but by the laity as well. It is not uncommon to hear an intelligent, educated, man express surprise when, after an examination of his rectal trouble, the surgeon tells him it is curable. Not long ago a very prominent clergyman came to see me because of hemorrhoids, which were ulcerated and had been giving him trouble for twenty years, and which at this particular time were giving him a great deal of pain, making life practically unendurable. When, after ascertaining that the trouble was due to ulcerated piles, I told him what was necessary to cure him, he looked at me in surprise and said: "Do you really mean to say that I can be cured?" Of course, we all know that a condition of this sort is perfectly curable. What is responsible for the prevalence of such an opinion amongst the laity, which is perhaps more general than any of us suppose? The answer is that a great many members of the medical profession are unwilling to make examinations of the rectum. Why this is true, is not an easy question to answer. Two or three decades ago, before we had rubber gloves, and an examination of the rectum was necessarily a disagreeable task, there was, perhaps, some excuse for it, but in the present day, when a doctor is confronted with a patient who complains of rectal trouble, he certainly has no excuse to offer if he fails to make proper examination. Furthermore it is not always necessary to use the finger in order to make correct diagnosis. It is true that the finger is one of the most valuable instruments we have at our command for diagnosing rectal conditions where the trouble is within reach of the finger, but if the doctor does not care to use his finger,

even though covered with a rubber glove, he can use the speculum with very satisfactory results. Nevertheless, there appears to be a very general aversion on the part of the doctor in general practice to making rectal examinations. I believe that the average individual who has the idea that rectal disease is incurable, has obtained the impression in this way: He first complains of trouble about the rectum and consults his doctor, who listens to his story and prescribes an ointment, which perhaps helps him a little or not at all. He goes to another doctor, or to the same doctor again, and gets a lotion, or something else, from which he still gets no relief. Then he consults the quacks, but still with no benefit. Then he reads in the paper of some pile cure and tries that, but without avail. Then some friend advises him to try this, that or the other remedy, and he finally resorts to "carrying a buck-eye in his pocket" until he loses faith in that, and comes to the conclusion that his trouble is incurable.

I do not believe the younger men are so prone to make the mistake of failing to examine the rectum as are the older generation of doctors.

Another point is that, after the diagnosis has been made, proper treatment should be instituted. It frequently occurs that after the doctor has made a thorough examination and established the diagnosis, he prescribes some form of palliative treatment rather than a radical cure. I would not have you understand that I believe all rectal conditions to be surgical in character. However, many of these conditions are purely surgical, and any other form of treatment is simply a waste of time.

The teaching of this subject should be encouraged; it is a very important need. We frequently see patients who have been treated for a long time for trouble in the lower bowel, and upon examination with the sigmoidoscope we find it to be higher up.

I wondered why Dr. Hanes thought he would invite criticism in making the statement that the levator ani muscle is a very important one. Certainly, it is a muscle which must be conserved if we would preserve the patient from incontinence. However, I do not believe that the external sphincter should be entirely disregarded. It is the combined functions of the external sphincter and the levator ani, principally, with the internal sphincter to a less degree, that enables the individual to exercise control over the bowels. If it becomes necessary, in an operation for fistula, or any other condition, to excise a portion of the sphincter, we do so; if it becomes necessary to take away the entire sphincter, we remove it, but if we allow the levator to remain, the patient will have at least partial continence.

I am glad to note that the essayist advocates what might be termed the modified inverted posture for rectal examinations. This conforms to my experience and practice and if I understand

him correctly when he says the position is far better if the head and shoulders are a considerable distance forward to that of the hips, the position recommended amounts essentially to an exaggerated knee-chest position. This is much better than the simple knee-chest and infinitely better than the Sims' position. I have used the "exaggerated knee-chest position" for years and have found it entirely satisfactory and not at all unpleasant for the patient. The sheet used should have near its center a slit about four inches long, through which the sigmoidoscope can be inserted, and a flap which can either be buttoned or closed around the instrument with safety pins; this, as can be readily seen, obviates constant re-arrangement of drapery.

Radiography, as was well said, is of the greatest advantage in diagnosing many conditions about the ano-rectal region and large bowel.

C. H. Harris: As one engaged in the general practice of medicine, it has been my observation that when an individual has anything the matter with his rectum, it is piles. It is always piles to the layman; as a rule, he does not recognize any disease of the rectum other than piles, and as Dr. Asman has pointed out, he goes from one to another, and tries all sorts of pile salves, rectal injections, etc., without relief, and when he goes to a doctor who wants to examine his rectum, he generally objects.

In order to examine the rectum properly with a proctoscope or a sigmoidoscope, it is necessary to put the patient in the inverted position, and this is what they object to. However, I always insist upon it; I learned that lesson from Dr. Hanes some time ago. Only recently I was in his office when he inverted a patient, put in a proctoscope and showed me a whole field of polypoid growths.

I think it is coming to be recognized that the rectum is a very important part of the human anatomy. In order for one to realize just how important it is, it is only necessary for him to have something the matter with his own rectum. Dr. Hanes will recall that I had that experience twenty years ago, when Dr. Mathews operated upon me at the Gay Street Infirmary.

C. G. Hanes (Closing): I have nothing to say in closing except to emphasize the fact that a great many affections about the rectum produce other than local symptoms. One of the most pronounced and frequent general diseases dependent upon some type of rectal affection is that known as neurasthenia.

FURTHER OBSERVATIONS OF NITROUS OXID-OXYGEN ANESTHESIA.

By W. HAMILTON LONG, Louisville.

(1). As might be inferred from the title the present paper is in a manner a sequel to one entitled, "The Present Status of Nitrous Oxid-Oxygen Anesthesia," read before the Louisville Society of Physicians and Surgeons in 1911, and published in the *American Prac. and News*, Vol. 45, 1911. In that brief article the writer, after a resume of the best literature he could find to that date; quoting only those men whose opinions he considered authoritative—and giving impartially the pros and cons, reached the following conclusions: "The writer wishes, for the present at least, to be identified with the conservatives. He believes that in this method we have simply one more weapon added to the list from which, when our judgment is taxed, we may choose. He believes it has a permanent place in the armamentarium of the careful conscientious anesthetist. He does not believe that it will soon displace the older and simpler methods." Let us see how passing time, and a wider experience have modified, though not materially changed that view.

(2). Nitrous Oxid-Oxygen has reached its present position through a process of evolution, the stages of which are about as follows: "First, used alone, or diluted with air, chiefly by dentists for tooth extractions, and so used for many years before the surgeon saw its manifold advantages in a certain class of cases. The anesthesia was always short; only a transient stage of unconsciousness and insensibility to pain being necessary. Second, as a preliminary to ether narcosis, with the sole idea of shortening, and rendering safer and less unpleasant the induction of anesthesia by this agent. Third, with the addition of Oxygen, considered adaptable to short procedures—such as the opening of abscesses, reduction of fractures and dislocations, examinations or operations on rectum or cervix, which would otherwise be painful or embarrassing, etc., in short an ideal office anesthesia. Fourth, as a last resort; a method of necessity in desperate cases, with a life-saving procedure imperative, and all other agents decidedly contra-indicated; and lastly as the agent of choice, adaptable to practically all operations, and chosen deliberately in preference to chloroform and ether. The writer, in the comparatively brief time he has worked with anesthetic agents, and with his comparatively limited experience, has followed nitrous oxid through these stages of its evolution, and must admit that he is now, slowly and cautiously coming to regard it as an agent far

more satisfactory than was first thought, and one with a wider field of application. First, let us distinguish between a nitrous oxid-oxygen anesthesia, and a nitrous oxid-oxygen ether anesthesia, and let us be honest with ourselves. Administering nitrous oxid-oxygen continuously plus ether *q. s.*, for perfect relaxation is not a nitrous oxid-oxygen anesthesia. It is a nitrous oxid-oxygen ether anesthesia, and as such is a combination of two anesthetizing agents, with a third agent, oxygen, the duty of which is to counteract the untoward effect of the other two, especially the nitrous oxid. This combination is highly satisfactory, and has much to recommend it. It is based upon the perfectly correct assumption that nitrous oxid-oxygen properly given is practically free from danger, and though producing a peaceful, quiescent, unconscious state;—does not produce such a degree of muscular relaxation as is frequently required, the quantity of ether necessary in addition is usually so small that while we may get the relaxing effect desired we yet use so little of this agent that its disagreeable effects, and its toxic effects are virtually *nil*. The writer has found it feasible and satisfactory to administer the nitrous oxid-oxygen-ether combination for abdominal operations of one hour's duration or more, with about the following oxygen let in just at the first suggestion of technique: Nitrous oxid at the start, with cyanosis or jaetation. There is usually with nitrous oxid a short, early, transient stage of relaxation;—as there is with ether,—the so-called "ether Rausch" so satisfactory for brief surgical procedures; which, while it lasts, is quite complete. During this stage the final preparation of the patient is begun, and the ether vapor is let in, very gradually, at a time when the throat reflexes of swallowing and coughing, are absent, and the ether is continued in very small quantity, and together with the nitrous oxid-oxygen until the peritoneal cavity is opened, the preliminary intra-abdominal examination made and the operation proper is under way. The ether may then be turned off, and usually need not be re-exhibited during the remainder of the operation,—save possibly for a few seconds just as the peritoneum is closed,—if the work be in the lower abdomen or pelvis. In upper abdominal work, where relaxation is more difficult of achievement, and where the respiration is so frequently troublesome, it will be found necessary to give a bit more ether, but even under these conditions the quantity necessary for satisfactory anesthesia is extremely small; the exhibition of ether vapor for thirty seconds to one minute—always gradually, to prevent swallowing or coughing—at intervals of ten minutes, usually sufficing. Thus as has been stated, we

get ether effect, without ether poisoning, and from such an administration the patient recovers much as from a straight nitrous oxid-oxygen anesthesia. The anesthetist must be governed of course by the difference in individual patients, and by the varying methods of different operators; but a procedure about as above will be found satisfactory in the great majority of abdominal cases, properly selected for this method.

(3). In all operations away from the abdomen, and for the performance of which, consequently, a profound relaxation is not essential, nitrous oxid-oxygen straight is entirely practical; and considering its greater safety, especially as regards its comparative freedom from disagreeable after effects, and total lack of toxicity, has much to commend it.

(4). The writer must devote a paragraph to the advocacy of nitrous oxid, preferably with oxygen, as a preliminary to ether, when that agent has been selected. The nitrous oxid ether sequence has everything in its favor when compared with ether "straight." Anesthesia is more quickly induced and with much less discomfort to the patient. It is safer as shown by statistics; post anesthetic nausea is lessened, for obvious reasons; the technic is simple, and the expense so trivial that it need hardly be considered. It is surprising in view of all this that some of the larger clinics and hospitals, where ether is the anesthetic of choice, have not adopted this method of induction.

(5). One cannot write to-day, however, briefly, of nitrous oxid anesthesia without a reference to Dr. Crile's anoci-association method—the use of local anesthesia at the site of operation, in conjunction with general anesthesia; nitrous oxid-oxygen. It is not within the province of this paper, nor the ability of its author to discuss Dr. Crile's kinetic theory of shock, the long painstaking, persevering research through which he reached his conclusions, and which led him to adopt the use of nitrous oxid-oxygen plus local anesthesia as a routine procedure in his clinic;—that may be found in his recent and most interesting work on the subject; but whether one subscribe to his theory or not, the writer would heartily recommend the use of the anoci-association method in cases where nitrous oxid-oxygen with, or without, ether is to be used as the general anesthetic. The employment of this technic renders nitrous oxid-oxygen more satisfactory, and if any ether be necessary, the quantity required will be considerably less.

(6). The writer believes that nitrous oxid-oxygen has its limitations. He has never believed in a routine anesthesia, but believes rather in fitting the anesthetic agent to the patient, than the patient to the anesthetic.

He does believe, however, that nitrous oxid-oxygen has a firmly fixed place among the agents for producing and maintaining anesthesia, and that its field is constantly widening. He has given it for major operations of nearly every character, in the presence of conditions that to his mind decidedly contra-indicated ether and chloroform, such as acute, and sub-acute nephritis, acute bronchitis, active pulmonary tuberculosis, marked anemia and shock,—in short, has made it the anesthetic of choice wherever he deemed the patient's handicap unusually great from any cause. In such "ragged edge" cases no ether has been used, the surgeon rather putting up with some inconvenience from rigidity, than having his patient further jeopardized, for let this be stated and emphasized in favor of this method; it is not always ideal in its action, but with a full appreciation of its shortcomings and a willingness on the part of the surgeon and the anesthetist to bear with them for the sake of the patient's welfare, it may be used, preferably augmented by the anoci-association technic,—the latter greatly increasing the degree of relaxation achieved,—in almost any case which may present for operation, and in it we have a method which renders the anesthesia risk at least, inconsiderable.

(7). The exact physiological action of nitrous oxid is not yet fully understood. Upon just what it depends for its anesthetic properties, or in just what way it exerts that action, we do not know. It does not act as chloroform and ether, i.e. as a lipid solvent, nor does it produce anesthesia, or unconsciousness, by mere deoxygenation or asphyxiation; of that we are sure, for sufficient oxygen may continuously be given to supply the red cells, and to keep the patient free from cyanosis, or comparatively so, and for this, the anesthesia is the better. We do know this, that it is eliminated chiefly by the lungs, and that the elimination is very rapid; the patient usually recovering entirely in a few minutes, regardless of the length of the administration, and save for the occasional disagreeable but not serious after effects to be mentioned later, so entirely free from its influence that later or secondary ill effects are not observed. The unpleasant after-effects are: First, nausea; which is more common than we were originally led to believe, though fortunately almost always of a transient nature, the patient rarely vomiting more than once or twice. In this connection the statement may be made that the preliminary dose of morphine which is generally recommended and almost universally given as a routine, is accountable for much of the nausea following nitrous oxid-oxygen anesthesia. The writer believes from observation that morphine causes nausea in about

twenty per cent. of all patients. Second, headache: a most uncommon after effect of nitrous oxid-oxygen anesthesia, and, Third,, occasionally, in the nervous, an hysterical state upon regaining consciousness which is at times persistent and annoying.

(8). The actual contra-indications, in the strict interpretation of the term, of nitrous oxid-oxygen are few, but there is a class of patients in which the agent is not satisfactory. Thus it seems better to use the terms "adaptable," and "inadaptable" rather than "indicated" and "contra-indicated." The writer will quote Teter: "Nitrous oxid-oxygen anesthesia is not ideal for major surgery on patients possessing strong, vigorous constitutions or extremely nervous temperaments, or those addicted to drug habits or the excessive use of tobacco. In other words, any patient who requires a large amount of any general anesthetic is not a good gas-oxygen subject to control owing to the lighter form of anesthesia induced by nitrous oxid. The ideal patients for nitrous oxid-oxygen anesthesia are the very ill, the anaemic, the debilitated, those possessing low vitality from any cause,—in short, all cases except those requiring a powerful anesthetic agent." The writer quotes the above as the classification of an authority, because it is conservative and because it is correct in practice.

(10). A few words before closing, as to method of administering the nitrous oxid-oxygen. There are many instruments on the market for this purpose. Some are extremely complicated, large and cumbersome. It has been said that one must nowadays be also a machinist and a plumber to be an anesthetist. This is low comedy with a grain of truth. A natural knack for mechanics is of great help in the use of an apparatus of the more elaborate and modern type. The anesthetist will use whatever apparatus he finds most satisfactory. There are three cardinal principles necessary to successful work with nitrous oxid-oxygen, viz.: First, the gases must be carried to the apparatus at low pressure, and in an even, unvarying continuous flow. To achieve this a pressure reducer, connected to the large high pressure tank, or built into apparatus, and having a gauge indicating the pressure in pounds is used. The pressure can be regulated as the anesthetist wishes. Second, a properly shaped, snugly-fitting face mask with pneumatic cushion, to exclude, in so far as is possible, all outside air. This is very important; indeed essential to successful nitrous oxid-oxygen anesthesia, thus this matter of excluding the air becomes at times quite a problem in itself, as in the case of those with long narrow faces, the toothless, and men with beards. Third, continuous re-

breathing. With a constant supply of fresh pure oxygen in the proper proportion, continuous rebreathing may be practiced for any length of time, and this procedure is almost universally recommended. The writer rarely uses the expiratory valve. Any one who bears these three essentials in mind, will, with practice, and judgment in the selection of cases, be able to do successful work with nitrous oxid-oxygen, and any apparatus which conforms to these requirements is a suitable apparatus. The finer, hair-splitting distinctions, that rival manufacturers bring out in their arguments are largely theoretical, when finely analyzed.

(11). The following is about the method of administration found most satisfactory by the writer. The patient is taken directly into the operating room and placed on the operating table, before any anesthesia is given, unless contra-indicated, and preliminary dose of morphine and atropine has been given one-half hour previous. Contrary to the belief of many and to the generally accepted view of few years ago, the bringing of the patient into the operating room before anesthesia does not add to, nor aggravate the nervous condition, the apprehension, the fright, but rather if the patient is properly approached in the ante-room and reassured in a gentle quiet manner, and by the suggestion that he is going to be favored with a view of the inner sanctum,—is going to be taken behind the scenes,—his interest is aroused and his mind taken off his troubles and his apprehensions. For there is much the same feeling of curiosity and awe on the part of the laity about an operating room, that we all have about places we are not permitted to enter. The patient upon entering the operating room then sees all the machinery in operation; the surgeon, assistants and nurses in their regalia, no undue talking or hurrying, or bustling around, and he is interested, and gains confidence and quiet rather than panic and terror. He is transferred to the operating table, the anesthetist all the time keeping a cheerful, reassuring manner and the anesthetic is begun without delay. The patient's eyes are covered with a damp towel, the inhaler is fitted over the face, the patient is instructed to take a few long deep breaths, is assured that no unpleasantness or discomfort will be encountered; and after a few inhalations of air the nitrous oxid is let in, without the patient's knowledge, to be followed, as explained above, by the oxygen. Some four or five minutes is necessary to find the proper mixture of the two gases for the particular case in hand. The average is about 85 per cent. nitrous oxid to 15 per cent of oxygen, though this will vary with different cases, and must frequently be altered a bit from time to time, depending on effect,

in the same cases. Ordinarily, when the gases are flowing steadily in the right proportions the anesthetist need but watch his patient and his apparatus.

CONCLUSIONS.

1. Nitrous oxid-oxygen properly given is the safest anesthetic. Its immediate danger is very small, and its subsequent danger *nil*.
2. It is ideal for such minor procedures as are mentioned above.
3. It should be the anesthetic of choice in all cases where for any reason the anesthetic risk is especially great; in anemia, in shock, or where shock is expected, in the debilitated and the old; and where diseases of the respiratory tract or kidneys exist. In operations especially in the abdomen, its efficiency will be greatly enhanced by the use of local anesthesia in conjunction, after Crile's anoci-association method.
5. It is not ideal as a routine agent, but should be used in selected cases. To use a paradoxical expression—good anesthesia by a dangerous agent is safer than poor, shallow anesthesia by a safer agent.
6. Its action when properly given is to produce a state of unconsciousness without voluntary muscular action even under pain stimuli, but marked muscular flaccidity is not achieved.
7. It is ideal for the induction of ether anesthesia, rendering that agent safer, and robbing it of most of its disagreeable effects.

DISCUSSION.

Emmet F. Morine: I believe we can all heartily concur in the statement made by Dr. Long that nitrous oxid is, in selected cases, the ideal anesthetic.

One of the things most essential in giving nitrous oxid-oxygen is a properly fitting face mask. It has been my experience that the pneumatic apparatus does not fit properly. I have found the Gatch mask with rubber cuff which fits the face snugly to be the best. In the use of this apparatus for rebreathing I have always found it necessary to use the expiratory valve, due to the fact that the face mask fits so tightly as to entirely preclude leakage. Therefore, when one wishes to add fresh gas, one must, of necessity, use the expiratory valve.

In my opinion the preliminary hypodermic is absolutely essential in most cases. Small doses of morphine, 1-6 or 1-8 gr. are preferable to larger doses, and in some cases it is wise to give even less—1-12 or 1-16 gr.

As the study of anesthetics progresses I believe that nitrous oxid will be used in an ever-increasing number of cases. However, I do not believe it should be employed as a routine agent, because there are really many contra-indications to its use. I have certainly enjoyed Dr. Long's excellent paper.

E. L. Henderson: Dr. Long has certainly pre-

sented a splendid paper and I think the Society is to be congratulated upon having heard it.

Like Dr. Long, I am very much in favor of the use of nitrous oxid as a preliminary to ether. It is an ideal method of inducing narcosis and is far superior, in every way, to the older methods of beginning anesthesia. Therefore, as Dr. Long pointed out, it is hard to understand why more of the larger clinics and hospitals do not employ this method. I also agree with the essayist that, in selected cases, nitrous oxid and oxygen is an ideal general anesthetic. However, it is almost impossible to secure the proper degree of muscular relaxation without a preliminary hypodermic of morphine and atropin. I usually use 1-6 gr. morphine and 1-150 gr. atropin, giving about half an hour prior to the general anesthesia. Even then, as the essayist has pointed out, it is necessary, in some cases, to give small amount of ether in order to secure the required degree of muscular relaxation. However, with the administration of a small amount of ether at times during the operation, satisfactory relaxation can be secured for almost any operation. Used in conjunction with the anoci-association method, nitrous oxid and oxygen is certainly an ideal method of anesthesia, and it will come nearer suiting all cases than any other method at our command. One of the greatest faults to be found with it is the expense. Nitrous oxid gas is very expensive and so is oxygen. However, the introduction of the re-breathing method has served to overcome this objection to a large extent. Furthermore, used in this way, nitrous oxid appears to induce a deeper anesthesia than formerly. As to the apparatus to be used, it has been my experience that the more simple it is, the better. The essayist spoke of nausea following the use of nitrous oxid anesthesia. I believe this occurs more frequently than we formerly believed. However, as the essayist pointed out, the nausea is of a transient nature; the patient will usually vomit just as he comes from under the influence of the anesthetic and very rarely after that.

I agree with Dr. Long that it is very common for patients to complain of a severe headache just after coming from under the influence of nitrous oxid anesthesia. This also is transient and only lasts a short time as a rule.

One phase of the subject which the essayist did not mention is the way dentists use nitrous anesthesia. They simply have the patient breathe in enough nitrous oxid and oxygen to induce what they call the "analgesic stage"; the patient is not entirely unconscious, but is sufficiently so to be insensible to pain, and I think it is an ideal anesthetic for this class of work. A year or more ago I was asked by two or three dentists, who were inexperienced in the use of nitrous oxid, to be present the first two or three times they used it, and I want to say that if I ever had any dental work done that amounts to anything, I will

certainly take nitrous oxid and oxygen, as it appears to be ideal for this purpose.

Jno. B. Richardson, Jr. I have certainly enjoyed Dr. Long's excellent paper and, in the main, I agree with everything he has said. However, I cannot indorse his statement in regard to bringing patients into the operating room preceding the anesthesia. In a majority of instances it may work all right, but where we have an individual of a highly nervous type, as in exophthalmic goiter for instance, I fail to see how the sight of a number of persons in white caps and gowns will tend to, in any degree, reassure the patient.

I was glad to hear the essayist call attention to the fact that complete muscular relaxation cannot always be secured under nitrous oxid and oxygen anesthesia, and I wish to emphasize this point. There is nothing more distressing to the anesthetist than to have the surgeon constantly nagging at him to push the anesthesia when he is doing his very best to thoroughly anesthetize the patient.

At the recent meeting of the Kentucky State Medical Association, Dr. Vance read a paper on the subject of who should do surgery, and I do not remember whether or not he made this statement, but at any rate, I believe that, before undertaking to do surgery, one should have given from five hundred to one thousand anesthetics. Giving less than five hundred anesthetics does not count for much from the standpoint of anesthetic experience, and any man who contemplates adopting surgery as a specialty should have given at least that number of anesthetics.

S. G. Dabney: I have used nitrous oxid and oxygen anesthesia in several mastoid cases where, for special reasons, it appeared to be indicated; Dr. Long and Dr. Henderson will each remember one of them. One of these was in a young lady, 20 years old, who was very ill from Bright's disease. Operation for the mastoid condition was postponed as long as I thought safe, but I was finally forced to do it while the patient was still in very poor condition. Besides an acute nephritis and the mastoid condition, this patient had one of the exanthemata, probably measles. Nevertheless, she took the anesthetic very nicely, and the operation was done without any trouble at all.

Another case was in a woman in whom the necessity for operation arose when she was five or six months pregnant with her first child. She had on previous occasions taken chloroform and ether, and both had been followed by such marked nausea that she was afraid a repetition of the experience would induce a miscarriage. Therefore, nitrous oxid and oxygen anesthesia was given. The operation in this case was a simple mastoid, and was also accomplished without difficulty.

I remember another case in which I have often wondered if the method of anesthesia had anything to do with the accident which occurred. This was an old man who came to me from a town

in Indiana to have an eye removed. He was in the seventies and in very feeble health, suffering from Bright's disease. A phenolsulphonophthalein test demonstrated that he could not take any form of anesthesia except perhaps nitrous oxid, or nitrous oxid and oxygen, which was given. The eye was removed without difficulty, but when the ciliary arteries, back of the eye, were cut, profuse hemorrhage ensued back of Tenem's capsule, pushing forward the orbital contents and I wondered whether the anesthesia could have been responsible for this unusual occurrence. Only twice in my life have I seen it occur during the enucleation of an eye. Of course, this old man had very marked arteriosclerosis partly due to age and partly to the disease present. I would like to hear from Dr. Long as to whether this form of anesthesia predisposes to the rupture of blood vessels in old people.

I have often had used nitrous oxid and oxygen anesthesia for opening the drum membrane, and it has always impressed me as being the most nearly perfect anesthesia we have. I recall that, some years ago, Dr. Henderson gave it to a very heavy-set man about eight o'clock in the morning, and within fifteen minutes after recovering consciousness he was all right and wanted some breakfast. I have taken it myself on two or three occasions for dental work, and can testify from personal experience that it is ideal for this class of work. I never had nausea afterward, and could go to the dentist, have a tooth pulled, and go back to my office to work, perhaps stopping on the way to see a patient.

J. A. Kirk: I agree with the essayist in regard to taking the patient into the operating room before beginning the anesthesia. It seems to me that it is much preferable to induce anesthesia in the operating room with nitrous oxid and oxygen, than to have to roll the patient into the operating room and continue the anesthesia with nitrous oxid, as it would be difficult to keep patient under gas while moving from one room to another.

W. Barnett Owen: I wish to speak to just one point, that is as to nausea following the administration of nitrous oxid and oxygen anesthesia. I remember very well an anesthetic that Dr. Long gave for me at the Jewish Hospital, about three months ago. This patient, a woman, was very much worried about the operation. She had taken an anesthetic once before, followed by extreme nausea which had persisted for some time. I assured her that on this occasion the anesthetic would not be followed by nausea, and Dr. Long gave her nitrous oxid and oxygen, preceded by an hypodermic of morphin. After the operation she suffered from the intense nausea for two or three days. I learned from her later that a dose of morphin always affected her that way. In view of this experience, I am inclined to believe that nitrous oxid and oxygen is held responsible for nausea in many instances where it is really at-

tributable to the preliminary hypodermic of morphine. While nitrous oxid and oxygen may be the anesthesia of choice in many cases, its proper administration requires a man who has had considerable experience in giving it.

W. C. Dugan: I wish to thank Dr. Long for his excellent paper; I have enjoyed it very much indeed. In my opinion, the muscular rigidity observed under nitrous oxid and oxygen anesthesia is due, in large part, to the fact that the surgeon begins too soon. If he would wait until the muscles have had an opportunity to become thoroughly relaxed, it would in a great measure overcome this objection.

I agree with what Dr. Dabney has said in regard to the danger of nitrous oxid and oxygen anesthesia in the presence of arteriosclerosis. Some time ago I lost, from aneurism of the aorta, a patient who had no symptoms of aneurism prior to the operation, which was done under nitrous oxid and oxygen anesthesia. The patient struggled very hard during the entire operation, which was for a liver condition, and became profoundly cyanosed. A few days later he developed hoarseness, and finally died as the result of an aneurism. Therefore, I think it should be borne in mind that, in the presence of arteriosclerosis, nitrous oxid and oxygen is contra-indicated, although it is an ideal form of anesthesia otherwise.

Geo. A. Hendon: I wish to speak particularly in favor of nitrous oxid and oxygen anesthesia in operating for prostatic conditions. To my mind, its use in these conditions represents the greatest benefit that accrues from this method of anesthesia; at least, that has been my own experience with it.

I have been reading very carefully Yandell Henderson's observations with respect to re-breathing. It appears almost incredible upon superficial observation that re-breathing one's own breath should act as a stimulant to respiration, but when one analyzes the physiological reasons for it, one can readily perceive that it is a valuable adjunct in sustaining the patient during the anesthetic. Henderson has shown pretty conclusively that it is the presence of carbon dioxide in the blood that stimulates action of the cardiac center, and that if the carbon dioxide be entirely eliminated from the blood, failure of the respiratory centers ensue and the patient loses his life, and it is to prevent this that he advocates the re-breathing of the patient's own breath.

Another phase of this subject that has interested me is with reference to the anoci association method. To my mind, the simple injection of local anesthesia does not completely carry out the idea of anoci association. My conception of the term, as used by its originator, Dr. Crile, is that it contemplates the elimination of all noxious influences having an effect upon the patient. Pain is only one; shock is another, but greatest of all is pre-operative fear. In carrying out the anoci-

association method of operating, while it is desirable to do so completely, it is not absolutely essential. If for any reason we cannot carry out the entire program, it is well to carry out a part of it, but I do not believe it is quite fair for one to claim to practice the anoci-association method of operating when he utilizes only a portion of it. The pre-operative preparation of the patient, not physically, but mentally, is, of course, the most difficult art and, as Dr. Crile emphasizes, the most important part of the anoci-association method.

I hope that my remarks will not be construed as derogatory to the use of local anesthesia in connection with general anesthesia. I believe that the more local anesthesia we use, the less general anesthesia we need, and the reverse of this proposition is also true—the more general anesthesia we use, the less local anesthesia we will need. I am grateful to Dr. Long for the excellent manner in which he has presented this subject.

W. Hamilton Long (Closing): I will try to answer the gentlemen in the reverse order in which they spoke.

In regard to Dr. Hendon's remarks with respect to re-breathing, it is my practice to employ continuously, and for any length of time. There is bound to be more or less leakage of the gases around the face mask. This also answers Dr. Horine's remarks. If all of our connections were ABSOLUTELY tight and re-breathing were ABSOLUTELY perfect, the anesthesia could be conducted without the loss of any gas whatever save that under those circumstances, room for fresh oxygen would have to be made from time to time. As a matter of fact, however, perfect re-breathing is not possible; therefore, a constant flow of gas into the bag is necessary. Respiration is stimulated by the carbon dioxide in the re-inspired air and because of the fact that the lack of air or oxygen makes the individual breathe so much harder. As an example of this, if an individual be locked in an air-tight room, when the oxygen begins to fail he will breathe the harder; it is simply an effort on the part of Nature to get what she needs and has been deprived of.

I tried to make it clear in my paper that nitrous oxide and oxygen anesthesia without ether should be used only in selected cases; there are many cases in which it is not at all satisfactory. I also tried to point out that an anesthesia begun with nitrous oxide-oxygen and continued with ether should not be called a nitrous oxide and oxygen anesthesia.

As to arteriosclerosis, theoretically this condition is a contra-indication to the use of nitrous oxide, but practically and clinically, it is the opinion of some of the best authorities that it is not a contra-indication, provided that sufficient oxygen is used. Nitrous oxide gas will increase the arterial tension during the first three or four seconds of administration, but it has been shown, by

the use of blood pressure instruments, that the administration of pure oxygen in sufficient quantity will soon bring the blood pressure down to where it was. In Dr. Gwathmey's new book on anesthesia he advises that nitrous oxide and oxygen anesthesia be not used in elderly people. I may be considered somewhat presumptuous in disagreeing with him, but "a cat may look at a King," and I am still of the opinion that arteriosclerosis is not a contra-indication to the use of nitrous oxide provided that plenty of oxygen be given. Dr. Hendon mentioned its applicability in prostatic conditions, and these are nearly always in old people, with a greater or less degree of arteriosclerosis. A very interesting and practical demonstration of the blood pressure may be made by first administering the nitrous oxide alone, or mixed with air, and then diluting it with oxygen. The pressure will rise at first, but immediately upon the administration of oxygen it will come down again.

In regard to the case mentioned by Dr. Owen, I stated in the paper that I believed most of the nausea in this case was due to the morphin. I also stated that about twenty-five per cent. of all individuals will show this idiosyncrasy to morphin, and will be nauseated by it. In giving nitrous oxide and oxygen anesthesia, I do not make any rash promises with respect to subsequent nausea. If the patient asks me if it will produce nausea, I remark that I hope not, though I can assure him almost certainly that it will be transient and not persistent.

I recall the case mentioned by Dr. Dabney. There is no way of knowing what caused the hemorrhage in this case; it may have occurred under any other form of anesthesia, and again it may not.

Replying to Dr. Richardson's remarks, I will say that I always make it a point to see the patients in the ante-room and size up the general nervous condition. If they appear to have only the ordinary degree of fright and nervousness, I do not hesitate to take them right into the operating room, where, with a few tactful remarks one can generally excite interest in the operation and make them feel that they have been given an opportunity to take a peep behind the scenes, as it were, and to see things that they are ordinarily not permitted to see, which serves to rouse their curiosity and interest and take the mind off the operation itself. I do not believe that nitrous oxide and oxygen anesthesia is entirely devoid of danger, and harm was done by spreading the impression early in its use, that it is absolutely harmless and that any one can give it. Dr. Teter, who is unquestionably the highest authority on the subject in this country, has collected records of eighteen or twenty deaths from nitrous oxide and oxygen anesthesia. It is the safest method in skilled hands, and probably the most dangerous in the hands of a tyro.

Replying to Dr. Henderson's remarks, there is

an apparatus that is being used by dentists now, provided with a nasal inhaler with a handle on it. The patient himself holds it to the nose and the dentist merely turns the gas on, and the patient dropping the inhaler is a sign that he is sufficiently anesthetized.

While I said nothing in the paper about the cost of nitrous oxid and oxygen, it is a rather expensive form of anesthesia. It has been estimated that its administration costs about six dollars per hour, one dollar for each ten minutes it is continuously given.

Just a word in regard to the hysterical condition that sometimes follows a brief administration of nitrous oxid. On one occasion I gave just a few whiffs to a woman in a dentist's office. The anesthesia was successful and the tooth was drawn, but the woman emerged from the anesthesia in an absolutely uncontrollable state of hysteria, and even voided her urine involuntarily. It was three or four hours before she could be sufficiently quieted to send her home in a carriage. I have seen several similar cases.

I am very much obliged to the gentlemen for their liberal discussion.

SOME OF THE DANGERS OF A TOO GREATLY RESTRICTED DIET IN TYPHOID FEVER.

By J. ROWAN MORRISON, Louisville.

I have nothing original or new to offer. I fear nothing even interesting. The reason I am going to talk on a subject that has been taken up and discussed so frequently and ably in these latter years is because I do not believe that all of us are getting the full benefit of the work that has been done along the advancement of the diet in typhoid fever. My observation of the diet of typhoid fever patients in general and especially those whom I have had to deal with in the City Hospital in the past convinces me that we have not paid enough attention to the palatability and nutritive value of the food given—our attention being too much attracted to its fluidity, often, I am sure, to the marked detriment of the patient.

Enough has been written now by competent observers and investigators to convince the most skeptical, if they really think about the subject in hand, that a typhoid diet does not have to be fluid on entering the mouth to be safe—on the other hand if milk be the fluid diet, it is easy to show, and I have shown it to the medical students, that the stool from such a diet is often coarser than the stool when cereals, scraped meat and such soft articles of food are given.

The vast majority of deaths in typhoid are due to exhaustion, 9-10; a very much smaller

per cent, 1-10, are due to hemorrhage or perforation.

As far as making the intestinal tract an ideal place for the healing of ulceration it cannot be done by any kind of food—for we will still have the unrest of peristalsis, and the coating of fecal matter, as it were a dung poultice, but these ulcerations heal in spite of this. Therefore it would seem advisable to give the patient as much food as his appetite and digestion can stand as long as that food will produce a soft non-irritating stool, and as little gas as possible.

Whether one believes in caloric feeding or not, in other words whether you administer beans for energy or wind—does not modify the fact that there are only two possible sources of energy, either in health or in disease, namely, food and the tissues of the body and if the food is deficient then the tissues of the body are called upon to make up the deficiency, and the body enters a state of starvation—the degree depending on the deficiency to be made up and the length of time it must be endured. Modern science has not shown that starvation for any length of time is an advantage—on the contrary it is a great disadvantage and danger. Animals are infected much more easily when starved, but not only is the loss of weight and vitality to be considered, the normal metabolism is so upset that there is produced a condition somewhat like the toxemias of pregnancy and the later stages of diabetes mellitus in that there is an acidosis as evidenced by the great increase of oxybutyric acid and an increase in the ammonia nitrogen in the urine, evidently nature's effort to overcome the acid. Therefore, if there be any advantages in starvation they are not apparent from the standpoint of nutrition.

For a long time we were taught that there would be very poor absorption of food, even if it were given, in typhoid fever. This has been disproven by the work of Von Hosslin even in 1882 and the most thorough observations of Phillip Shafer and Warren Coleman. In fact under the diet given by them the patients sometimes gained weight during the course of the fever. Their work showed the carbohydrates were the class of foods largely responsible in preventing the loss. Carbohydrate foods can be administered easily in many forms in the typhoid diet.

At the expense of boring you I am going to give a short history of feeding in typhoid fever. I take this from Warren Coleman's paper on this subject (Oct. 9 1909). It had evidently been the popular plan to starve fevers until Graves in 1835 advised a diet in typhoid of toast crumbs moistened in meat broths and meat jellies. This was considered

quite an advancement but must be given a very few calories per pound.

The next advancement popularized by Austin Flint was the administration of milk in considerable quantities. Milk furnishes 700 calories a quart and for an individual who needs 3000 calories daily four quarts of whole milk would not suffice—rather difficult to drink that quantity I suspect.

Dr. Geo. L. Peabody in the Practitioners' Society of New York, Nov. 4, 1892, in his remarks on the diet in fevers said that he had been feeding his typhoid patients as much according to their appetites as was consistent with a sensible diet. He gave a rather liberal and palatable diet.

In 1897 F. C. Shattuck of Boston, published his article on diet in typhoid where he said that for some years he had been feeding his patient along the line of the demands of the appetite, and laid especial stress on the withholding of food when the stomach was irritable, so-called gastric fever, advised not to push the food where there was a poor appetite.

Barrs in England and Bushyev in Russia took up this subject about the same time.

Philip Shaffer and Warren Coleman in Bellevue Hospital, New York, by feeding for the caloric requirements of the organism under the effect of fever and toxemia more able in some cases to make the patient gain in weight and in all there was very slight loss.

In all these increased diets it has been noted that the patient is better satisfied—more lively—and not nearly so frequently subject to the sequelae of typhoid—loss of hair, neuritis, and prolonged weakness and anemia, and on the whole are able to return to their ordinary life and work much sooner than those on a reduced diet.

The idea then of Peabody and Shattuck was to use the appetite as a guide to feeding within reasonable limitations. The works of Pawlon would seem to justify this idea. Shaffer and Coleman idea to keep the body in as possible a state of equilibrium of metabolism. The modern study of nutrition by calorimetric means shows what the needs of the body are under the influence of fever and infection and it would seem to be only reasonable to meet these when possible to do so.

That it is possible or necessary to feed all cases up to 50 or 60 calories a kilo, I doubt seriously. That there are cases with reduced vitality and good appetite which should be fed up to the limit I also believe.

In 1910 I first tried the high caloric diet on a patient sick with typhoid in the City Hospital. He was eighteen years old. I gave a diet of about 60 calories a kilo, 27 1-4 cal. a pound. The food consisted of milk and cream, milk, sugar, eggs, cereals, Zweibach

and strained vegetable soup. He took the food with relish, and wanted to sit up and walk around the ward, which he was not permitted to do, but he looked happier than any typhoid patient I had treated up to that time. He had a rapid convalescence and returned to his work in a short time after he left the hospital. Since then I have been convinced that more food was necessary for my typhoid patients than I had been giving them before.

However, it is a very difficult task to feed these patients for often there is great irritability of the stomach, and food must be withheld altogether for a while and then very cautiously given. At other times the patient has no appetite and will take only a little food. Here is the place to give highly nutritious food in as small quantity as possible. If the patient does not have indigestion from their use a mixture of milk, cream, eggs and milk sugar is excellent and can be given frozen as a custard and is often well taken or as baked custard. I have seen patients take these highly nutritious foods when they would not take broth. This type of food sometimes produces indigestion and must be withheld and simpler articles substituted. But nevertheless there are a great many cases with a good appetite from the start and in almost all cases there is appetite sometimes before the fever is gone. If nutritious food is given now instead of waiting for the fever to leave entirely the patient will have a shorter convalescence and fewer sequelae.

The danger of a too greatly restricted diet are the added toxemia of starvation. The great exhaustion and debility. The extreme weakening of the muscular system—including the heart. The great loss of fat from all the organs and tissue. The dangerous sequelae of nervous depression. Neuritis and lowered resistance to other diseases, and the great inconvenience and loss of time in returning to one's usual life and work.

The two following cases I saw in the wards of the City Hospital in 1912:

No. 1—Male, age 11 years. He was in the ward when I went on in October. Had been in the hospital since about the 10th of August. His temperature was 97 to 99.5 in the morning, and 99 to 101 in the evening. Pulse weak and rapid. He was greatly emaciated, skin and bones, very pallid, very much constipated, the rectum filled with whitish scybalous masses. He was delirious, talking at random, shouting out all through the night. Did not know who he was or where he was or anything about himself. He would look at you and utter the most profane oaths. He could not sit up or hold his head up. His diet consisted of milk, and orange albumin every 3 or 4 hours. There was no record of how much of either he was really taking, but

upon an investigation I found out that he was taking very little of either or he would often spit out the food even if he took it in his mouth. He was therefore practically getting nothing to eat, at least not over 4 or 5 calories per pound. In looking over his chart he seems to have had high fever at first, and an ordinary case of typhoid fever, but after his temperature had reached 99 in the morning and 101 in the afternoon there had been no apparent effort to change his diet. At first it became necessary to train the boy to eat. As soon as he had accomplished this he developed a ravenous appetite, and could eat more food of the most nutritious character than is consumed by a large, strong man. In a week he was improved and showed some signs of recognition, who he was, and where he was. At the end of two weeks instead of being a wild, delirious, swearing youth, he was calm, easily controlled, a child of most lovable temperament. I believe that this child was in a very dangerous condition and had he been allowed to go on without proper feeding would have died.

Case No. 2.—Man 38 years of age, seen in the City Hospital same year, Oct., 1912. This man had been in the hospital since July. He had apparently suffered from a severe case of typhoid fever, which had shown improvement after six weeks. This had then been followed by some pulmonary condition, probably pneumonia. He was extremely emaciated, very weak, surface fat all gone, muscular tissue very soft. He had large bed sores on back and hips. His hair was practically completely gone, and he had a neuritis in both feet, a most pitiful looking man. His temperature in the morning 96 to 99, and afternoon 99 to 101. No regularity in temperature. Pulse rapid and weak. He was semi-conscious and delirious. His food had consisted of milk, broth, orange and lemon albumin, the quantity of each was very hard to estimate from his chart, and probably amounted to only a few calories. Upon a well regulated full diet this man began to improve in a short time, and after the end of a month did not look like the same individual.

Case No. 3.—White boy about 20 years of age. Seen in 1911 with Dr. R. H. Davis. He was supposed to have had typhoid fever, and was put on a very limited diet over a long period. When I saw him he reminded me of a living skeleton. The only thing Dr. Davis did for him was to administer plenty of good wholesome food, and he made a complete recovery.

Even though one does not administer a diet of sufficient calories to meet the energy requirements in typhoid fever, or does not desire to give solid or semi-solid food, they can

at least see to it that some regular schedule can be followed for the administration of food for these very ill patients.

DISCUSSION.

W. F. Boggess: I came here to-night for the purpose of hearing Dr. Morrison's paper because I knew it would be a good one. I knew that what he would write would be what I could indorse most fully, and I have not been disappointed.

There is no more important subject that could be brought before any society than that of feeding in typhoid fever. It is almost impossible to get away from the old legendary ideas that endured for more than a hundred years, and it has been very difficult to teach, not only medical students, but the older members of the profession, that these ideas were all wrong. I am heartily in accord with Dr. Morrison in regard to keeping up the nutrition in typhoid fever. When we reflect that typhoid fever is a disease marked by high temperature, intense toxemia, with rapid burning-up of the albuminoids of the body and with a tendency to rapid degeneration of all the tissues of the body, why should we hesitate to overcome this intense waste of the tissues by proper feeding? Eighteen years ago, in a paper read before the Muldraugh Hill Medical Society, I covered very much the same ground that Dr. Morrison has gone over to-night. At that time I also urged the frequent use of castor oil, stating that we could purge the patient during any stage of typhoid fever, not only without danger, but with positive benefit, and it is amusing to me to reflect how many members of that splendid Society jumped on me as being too radical and dangerous in my ideas, and I think many of them believed that I did not feed my typhoid patients as my paper indicated, but I did.

The question of heat units is the essence of the whole proposition. We must realize that in typhoid fever it is necessary to keep up the body nourishment by supplying the system with a sufficient number of calories—say about three thousand, or thirty-five hundred, for a man of average weight. As Dr. Morrison has pointed out, if we put the patient on a sweet milk diet, four quarts will give him only about twenty-eight hundred calories. Another reason why I do not believe sweet milk should be given in typhoid fever, is that it is not digested; it undergoes butyric acid degeneration, increases the toxemia and does more harm than good. Buttermilk not only possesses an equivalent food value, but it exerts a wonderfully beneficial influence in the way of disinfecting the intestinal tract; it is not only a food, but a medicine. The caloric value of buttermilk may be increased by the addition of sweet cream, which contains from fifty to a hundred calories per ounce.

We are also pretty safe in giving a typhoid patient well-toasted bread, as well as eggs, par-

ticularly the whites, which are well borne. Strained oatmeal, with butter or cream and milk sugar added will increase the calories. It is not a fairy tale, gentlemen, to say that we can carry a typhoid patient with practically no loss of weight. I do not know that I have ever seen one gain in weight under my treatment, but I am quite sure that the majority of my patients recover from the disease in fairly good physical condition, and convalescence is rapid.

Another true statement made by Dr. Morrison is that ninety per cent. of deaths in typhoid fever are from asthenia, cardiac exhaustion, gradual degeneration of the heart muscle. By giving carbohydrates in the form of cream and buttermilk we do not increase the danger of hemorrhage; we are not putting into the intestinal tract anything that will act as a mechanical irritant. On the contrary, we lessen the tendency to hemorrhage and perforation by improving the muscular tone of the whole system. We rarely have hemorrhage in typhoid fever unless there is marked tympany, and this does not usually occur unless there is at least partial paralysis of the bowel. Tympany causes the bowel to lose its muscular tone and become lax, and increases the danger of hemorrhage and perforation. Therefore, there is no question that by forced feeding we improve the muscular tone and thereby lessen the tendency to hemorrhage and perforation.

I do not know that anything further can be added to what the essayist has said in his paper. I simply wish to emphasize the statements he made in regard to feeding in typhoid fever, and have only one criticism to offer—that is, do not give sweet milk—give buttermilk with the addition of sweet cream.

R. Hays Davis: Dr. Morrison has presented a very interesting and timely subject, and I have very much enjoyed hearing his paper.

In feeding our typhoid patients, we must exercise a little common-sense. A thorough knowledge of the digestive function and the processes through which the various foods must pass will help us. Some forms of solid food are certainly not more indigestible than many liquid foods. Knowing this, there certainly can be no objection to giving these patients certain forms of solid foods as long as they appear to be digested and assimilated. When we know that an individual must have so many calories in order to keep up the general nutrition, and we fail to give the required quantity, it naturally follows that the body tissues will be burned up to a greater or less extent, and may lead to changes of serious nature. Under such circumstances, we are doing more harm than good by withholding food. Therefore, it appears that by giving sufficient food to keep up the nutrition we may do a great deal of good with very little chance of doing any harm, provided we keep a close watch on the digestive function and avoid tympany or other symptoms of digestive disturbance. I have seen a number

of cases where the fever has been protracted over long periods, and the patient became more or less emaciated, and upon simply increasing the amount of food given, the symptoms have disappeared. Therefore, in every case of typhoid fever where the fever is protracted and is not due to any definite complication, and especially where there is progressive emaciation, an increase in the quantity of food is indicated, and in the majority of such cases the fever will disappear as soon as the patient begins to receive proper nourishment.

The patient Dr. Morrison mentioned as having seen with me was in a deplorable state when I first saw him. He was covered with bed-sores, many of which extended to the bone; his temperature was 104 F., he was delirious, his limbs were contracted and he was emaciated to an extreme degree. For weeks the only food he had received consisted of a little broth and albumin water. All that I did for this patient was to give him greater quantities of nourishment, with immediate improvement. Within a week his temperature was normal, and all of his symptoms were rapidly disappearing.

One point that must not be lost sight of is the presence of acidosis, which occurs rather frequently in typhoid, where the carbohydrates have been limited. Only recently I saw a patient whose urine was loaded with acetone and diacetic acid, which promptly cleared up upon increasing the carbohydrates, and giving alkalis. In all these cases where the diet has been limited, it is well to examine the urine occasionally for acetone and diacetic acid, and this may at times clear up otherwise obscure cases.

F. C. Askenstedt: I came to hear Dr. Morrison's paper because I know he always writes one worth hearing. The pendulum is swinging in the direction of increased feeding in typhoid fever, but I am afraid it is swinging a little too far. When we feed a typhoid patient the same number of calories as are needed to maintain the body during health, we are evidently going just a little too far. The coated tongue and the dry mouth in typhoid are indications that the digestive tract is not up to par; the diarrhoea shows that the intestinal tract is not able to take care of the food ingested by the patient. Therefore, I think we are going a little beyond the point of safety in feeding a typhoid patient a number of calories equivalent to that required in health.

I was glad to hear Dr. Davis mention the diacetic acid test. The diacetic acid test on the one hand and the test for indican on the other will help us to avoid either of the two extremes—too scant or too liberal feeding. When diacetic acid appears in the urine, the patient has evidently been underfed, and should be fed more freely with carbohydrates. The patient is less apt to be injured by an excess of carbohydrates than by an excess of proteids, because nearly all toxins are of proteid origin. The feeding of too much proteids means an excessive growth of harmful

baacteria and, consequently, more typhoid bacilli to be absorbed and more fever. Some time ago I tested my own nutritive demand for food, and found that during 28 consecutive days, doing light work, I consumed only from nineteen hundred to two thousand calories during warm weather. I believe that a typhoid patient can be fairly well kept on two thousand calories per day. A quart of buttermilk will give forty grams of proteid which will not come very far from Chittenden's standard of eight grams of nitrogen. Any excess of nitrogen over that amount simply promotes intestinal putrefaction. In addition to the 700 calories furnished by the milk. I am in the habit of feeding my typhoid patients from one-fourth to one-half a pound of sugar of milk, half a pound containing 900 calories; the balance is made up of cereals and fruit juices. Some patients will not take that much sugar; it may produce glycosuria, which is another thing we should avoid. However, nearly every patient can take as much as a quarter of a pound of sugar of milk, and the remainder of the required number of calories can be supplied by other carbohydrates. I believe such a diet, varied according to the size and habits of the individual patient, proves most satisfactory.

Harry J. Phillips: I remember when I first began to practice medicine, it was the custom to treat typhoid fever largely with whisky. This has become practically obsolete now. I am inclined to think that some of those who have expressed themselves on this subject have advocated things here to-night that they would not put in practice at the bedside. I do not mean anything personal by this, but I do believe that the majority of doctors to-day feed their typhoid patients just as you and I feed them—that is, we all endeavor to give the patient a sufficient number of calories to nourish him. It is true, however, that in certain stages of typhoid fever we can give heavier feeding than at other times—oatmeal, unstrained gruels, milk toast, bread and butter, mashed potatoes, eggs in almost any form, baked apples, and things of that kind. If a heavy diet is to be given in any case of typhoid it should be in those where the attack is a mild one, and the patient needs little or nothing except Nature to bring about a cure. In my opinion, the ideal diet in typhoid fever is milk and its modifications—peptonized milk, fermented milk, buttermilk, whey, junket, etc. Water should be given in abundance because it acts as a diuretic, and acts as an internal hydrotherapeutic measure, washing out the toxins, etc.

We cannot lay down a routine diet that will be applicable in every case of typhoid fever; each case is a law unto itself, and we must treat the individual rather than the disease. However, I do believe that those who confine the diet in typhoid fever to watery broths, and things of that sort, make a mistake. Likewise, on the other

hand, we make a mistake if we give patients who are delirious, tympanitic, emaciated and running a high temperature, anything except a milk diet, or, at least a liquid diet.

In my service at the City Hospital this summer, we had a number of severe cases of typhoid fever. It would have been a serious matter, in my opinion, to have given these patients any heavy diet at this stage, but later on, when the fever abated and they had begun to improve, they were able to take a diet that was heavier and more nourishing.

Dr. Morrison has presented a very instructive paper on a very timely subject, but I say again, I do not believe we should make it a routine practice to give all of our typhoid patients a heavy diet.

J. Garland Sherrill: When I was an interne in the old City Hospital, I had the very sad experience of seeing a young interne die as the result of perforation of the intestine due to heavy milk feeding during an attack of typhoid fever. I was convinced at that time that sweet milk is not the best diet we can give in typhoid fever.

I do not believe any physician would give what Dr. Phillips calls a heavy diet in typhoid fever. That the individual must be treated rather than the disease is best illustrated by the story of the physician who was treating a German for typhoid fever. The disease had progressed to about the third week and the patient was begging for something to eat, particularly some sauerkraut. This the doctor refused to give him, saying that it would kill him. On his next visit the doctor asked the patient how he felt, to which he replied: "Better, doctor; I have had my sauerkraut." This so impressed the doctor that he made a note of the fact that sauerkraut appeared to be an excellent remedy in typhoid fever. Later, he was called to treat an Irishman with typhoid fever, and, remembering his former experience, he told this patient that he might eat sauerkraut. The Irishman did so and promptly died, whereupon the doctor made another note to the effect that sauerkraut appeared to be a good remedy for typhoid fever in a German but not in an Irishman. This seems to express the situation here to-night; what is good for one patient will not do for another. I do believe, however, that the typhoid patient to-day is given more to eat and fed more scientifically than formerly.

Asa W. Nickell: I have very much enjoyed Dr. Morrison's excellent paper. The study of dietetics in connection with typhoid fever is a very interesting one. In the Johns Hopkins Hospital at the present time they are using a milk diet in typhoid fever. The average individual in normal health and at rest expends about twenty-three hundred calories in twenty-four hours, and in typhoid fever this is supposed to be increased by about five hundred, making twenty-eight hundred in all. It is claimed that to guard the body tissues from loss, food having an approxi-

mate energy value equal to the above should be given. It is also generally held that it is impossible to replace this destruction of tissue in fever; that in spite of a great excess of food there is a constant loss in body weight, but by increasing the food adroitly, the loss can be diminished. Nichols concludes that this necessary loss of fat and protein is an amount which on combustion would yield about eight hundred calories; therefore, the food should have an energy supplying value of two thousand calories. To supply this by milk alone would require three or four quarts, an amount impracticable to give on account of its bulk and the excessive formation of curds in the stomach and intestines. As Muller, of Munich, points out, the larger amount of meat is absorbed in the upper part of the intestines and it is, therefore, hard to see why the softer forms of solid foods would be more likely to cause perforation and haemorrhage than would the curds of milk. Personally, I believe that sweet milk, diluted with *vichy*, *apollinaris* or soda-water, furnishes the best basis of diet in typhoid fever, where well-borne and assimilated. In the Johns Hopkins Hospital, it is the practice to give the patient about four ounces of sweet milk diluted with two ounces of one of the waters previously mentioned, alternating every two hours with the whites of eggs, to which is added carbohydrates of the alcoholic type in the shape of sherry wine, and a little lemon juice, the mixture being then well shaken in cracked ice and run through a strainer. This form of diet leaves very little residue in the bowels, but might be a little short in caloric value. The great majority, however, receive this diet alone. It is only stopped if curds occur in considerable numbers, when the diet is then changed to egg, as above mentioned.

In the Massachusetts General Hospital they have collected statistics on 231 cases fed on a milk diet, in which there were only 4-10 per cent. of perforations, while in 241 fed on a liberal mixed and solid diet, the percentage of perforations was 3.3. In 318 cases collected in the Kief Military Hospital and fed on this diet, there were only 1-10 per cent of perforations.

In feeding our typhoid fever patients we must be guided entirely by the quantity of food that the individual can take care of. I believe in feeding liberally only to the extent that the patient can utilize it.

Edward Speidel: One method of feeding which it occurs to me might be used to good advantage in typhoid fever is that employed in puerperal infection and other septic fevers; namely, the rectal injection of a tablespoonful of sugar in a pint of water. In severe cases of typhoid, where feeding by the mouth is dangerous, and where an examination of the urine reveals acidosis, it seems to me that this method of feeding would be very valuable.

C. H. Harris: I have been practicing medicine for about twenty-five years and in that time I

have seen a great deal of typhoid fever. However, since the filter plant has been put into operation in this city, we do not see as much typhoid as we formerly did, and it is a different type of typhoid to that we saw fifteen years ago.

I do not believe we can lay down any hard and fast rules as to the treatment of typhoid fever. It has so many different forms; in one individual it attacks the osseous system, in another the nervous system, in another the digestive apparatus, and so on, and it has been my practice to base the treatment upon what I find in this or that particular case. In all cases, however, I practice internal hydrotherapy, washing out the toxins, and lately I have given acetozone more than anything else.

I never give sweet milk in typhoid fever. I give plenty of buttermilk and, when the patient wants a change, swieback, toast, etc., are permissible.

It has been my observation that uncomplicated typhoid fever in children is rarely fatal. I suppose I have seen fifty cases of typhoid in children and not one of them has died. In children it does not appear to go on to the stage of ulceration as in adults.

If there is one article of diet that is of more value than another in typhoid fever, it is buttermilk. It does not curd in the bowel and it supplies the necessary caloric value, and it is easily given by the rectum in cases where the patient cannot swallow anything. Some years ago I had occasion to treat two sisters for typhoid fever. One of them remained unconscious for three weeks, and, by the way, this is the longest period of unconsciousness in typhoid that has ever come to my notice. She was kept alive by means of buttermilk and panopeptone injected into the rectum. Of course she became greatly emaciated, but she got enough to keep her going until she recovered from the toxemia.

A. C. L. Percefull: I simply wish to mention one more article of diet in addition to those which have been referred to by previous speakers; that is, breakfast bacon, cooked to a crisp. It will not hurt any typhoid patient.

I was glad to hear Dr. Speidel call attention to rectal feeding, which is of great value in some cases of typhoid fever. I have frequently made use of a mixture of a ten per cent. glucose solution, whites of eggs and a little milk, but glucose alone will support the patient to a surprising extent. The use of glucose not only nourishes the patient but helps him to resist the infection.

J. Rowan Morrison, (Closing): I appreciate the discussion very much indeed. My paper dealt particularly with the dangers of over-feeding in typhoid fever. The fear of giving a fever patient something to eat has become a nightmare and a bugaboo, and it is hard to get away from it. As to treating all of these cases in a routine manner, that has become obsolete; to treat every individual in exactly the same way would be ab-

solutely foolish. As pointed out in the paper, the food given to a typhoid patient should be selected somewhat for its palatability, and to suit the appetite to a certain extent. There is no reason why a typhoid patient who has been in the habit of drinking coffee should not have some; it is a very good stimulant. Oatmeal, cream of wheat, corn-meal mush, etc., are all good, and if he wants some bacon or the soft part of a baked apple, let him have it. If we will examine the stool after such a diet side by side with a stool following a milk diet, we will find that the former has all the best of it. The carbohydrates and solid material give the stool a better consistency.

In regard to the use of sweet milk in typhoid I see no reason why we should not give the patient a certain amount of sweetmilk. I am told that Dr. Alexander Lambert is a most excellent physician, but there are excellent men in the Johns Hopkins Hospital, who make sweet milk the principle article of diet in their typhoid cases.

I do not know just what Dr. Phillips means by the term, "heavy diet." The food I have mentioned are not what might be called "heavy," although rich in calories. In many cases we almost have to fight these patients' friends and relatives to get them to allow the patients to eat something. I have frequently had this to contend with in internes and medical students. In a case I had last summer, the nurse gave the patient some Cream of Wheat and his temperature went up that afternoon, and she attributed it to the Cream of Wheat. It has been my observation that when we give food the temperature goes up, and when we do not give food it goes up anyhow; therefore, it seems to be a question of fever, and not of food. Naturally, if we give a typhoid patient something he cannot digest, his temperature will rise, but that does not mean that he has a relapse. A relapse, as I understand it, is really a re-infection; in other words, the patient has not developed a sufficient number of antibodies to produce complete immunity and he suffers a reinfection, but when an attack of indigestion occurs during the course of typhoid, a dose of castor oil will usually relieve it.

My observation in running an automobile has been that if a solid body such as a boot is placed in a tire, it will not blow out as quickly as if overdistended with air, and it occurs to me that the same question of mechanics may apply to the human gut. In other words, if we introduce a certain quantity of solid matter into the bowel, it is not so liable to perforate as if filled with gas.

One of the speakers referred to Shaffer and Coleman who first brought out the question of high calorie diet in typhoid fever. Shaffer is not a doctor; he is a scientist. When Dr. Coleman read his paper Dr. Jacobi took issue with him, saying that he did not believe a typhoid patient could absorb that much food. Personally, I doubt very much whether some patients can take

such high caloric values as Coleman gave in his cases. As stated in the paper, we should not attempt to lay down a hard and fast rule as to the number of calories to be given in typhoid fever; we must take the individual into consideration, but when an individual, from typhoid fever, tuberculosis, or any other condition, has become greatly emaciated, why not give him as much food as he can digest, and get rid of?

As to the use of alcohol in typhoid fever, I do not believe it should be used in all cases, although in some instances it is a life-saver. I remember one case in a woman who could not take any food and was in a desperate condition. She was able to take from eight to twelve ounces of whiskey a day, and did not know she was taking it. She apparently burned it up and it kept her going until she was able to take buttermilk and other foods.

Lactose is good, and if it cannot be administered by the mouth, give it by the rectum. I cannot see any advantage in giving pancreptone and other similar preparations. Bulk for bulk, its caloric value is about the same as milk. Alcohol contains about 200 calories per ounce, is easily absorbed, and probably supplies a great deal of the heat that has been lost.

Do not understand me to say that alcohol should be given to every case, in fact it should rarely be given, and then only because of urgent needs.

TWILIGHT SLEEP.

By H. A. DAVIDSON, Louisville.

Twilight sleep or *Dammerschlaf*, as the Germans call it, has been practiced for over ten years in Freiburg where it originated under the supervision of Kronig and Gauss. About seven years ago I read an article on this subject written by Gauss and at that time I determined to use it in my clinical work. The opportunity presented itself while I was on the obstetrical staff at the City Hospital about six years ago. We used the method on about six cases with very good results. At that time we used larger doses of morphine and hyoscine or scopolamin than we do now. Then we used morphine gr. 1-4 and hyoscine gr. 1-100 for the first and subsequent doses and had a good result in each case. One case especially I remember because it was a very difficult right occiput posterior presentation which caused a long hard labor. The woman after it was all over declared she never remembered a single pain after we injected the medicine. In these cases none of the children were asphyxiated and no dangerous symptoms arose in the mothers. This method was pretty generally used by obstetricians

over the country about the same time and some men reported asphyxiated children. In reviewing these cases now I feel certain the children were narcotized not asphyxiated by the repeated doses of morphine which were always given with the hyoscine. As a result of these adverse reports by other men I discontinued its use until this summer when I determined to try it again making use of the improved method of administration.

On July 26th, 1914, Mrs. H., age 26 a primipara commenced with labor pains. She had engaged a room at Norton Infirmary and was at once removed there. She was a highly neurotic woman and bore the early nagging pains very badly. After several hours of labor pains she had become so nervous and uncontrollable that I found it necessary to do something to relieve her pains. I ordered morphine hydrobromide gr. 1-6 and hyoscine hydrobromide gr. 1-200. The room was darkened and the patient kept as quiet as possible. The nurse was instructed to test the memory of the patient from time to time and as soon as she remembered previous events to give her another dose of hyoscine gr. 1-200, but no more morphine. She was carried through the first and second stages of labor and was delivered with the aid of forceps of a good-sized baby. Sometime after the baby was born she was asked if she had felt any pain during her labor and she stated that she never remembered having any pain soon after the hyoscine was given her and that she had no recollection of its birth at all.

The higher cerebral motor centers are depressed by the scopolamin and the memory of the pain is cut out. The scopolamin acts upon the pupils and secretions similarly to atropine.

Two other cases were given the twilight sleep in the infirmary, but since they were not difficult labors they did not require as much of the drug and both had practically painless births. The babies apparently were not affected in the least by the drug.

I will describe more in detail the administration of the drug to a difficult labor case which was delivered at the residence of the patient. I wish to state right here and make it plain that I do not think the twilight sleep should be given unless the patient is in an infirmary or has two graduate nurses present during the administration of the drugs, if she insists upon remaining at her home.

Mrs. J., age 23, primipara, having gone ten days over time was prepared for the induction of labor, and the cervix dilated by Harris method. After labor pains were well established she was given at 8 a. m., morphine hydrobromide gr. 1-6 and hyoscine hydrobrom. gr. 1-150. At 11:15 a. m., she was given hyoscine hydrobrom. gr. 1-200 and at 3:25 p.

m., hyoscine hydrobrom. gr. 1-300. She was delivered at 11:10 p. m., of a good sized girl baby after a difficult forceps extraction of a right occipito posterior presentation.

Throughout the period of twilight sleep she lay in a semi-conscious condition between pains would rouse slightly when the pain came on, turn on her back bear down and call out during the pain and then turn over and go to sleep again. She would answer questions and would get up at intervals to go to the toilet. After it was all over she remembered very little if any of the occurrences during the period she was under the influence of the drug. The baby was normal in every way and was not in the least asphyxiated.

During the past year I understand they are using at the Freiburg Clinic, narcophin instead of morphine. Narcophin is a double salt consisting of one molecule of morphine and one molecule of narcotine with one molecule of divalent meconic acid and is equivalent in morphine content to 38 per cent morphine hydrochloride. This morphine-narcotine-meconate acts more powerfully than morphine while having less effect upon the respiratory center and also causing much less headache, numbness and vomiting after its use. Narcophin may be used safely in double the dose of morphine.

In Mayer and Gottlieb's latest (1914) Pharmacology are found these two statements which bear upon the drugs used in producing twilight sleep: "Small doses of morphine excite (while large ones inhibit) uterine contractions." "Scopolamine appears not to affect the uterine contractions appreciably."

DISCUSSION.

Walker B. Gossett: Personally, I have had no experience with twilight sleep, but I have read a great deal concerning it lately. I also wrote to Dr. M. A. Robinson, of New York, on the subject, and received a letter from him the other day, saying that an article of his, on twilight sleep, would appear very shortly.

I congratulate Dr. Davidson upon the success he has had in the use of twilight sleep. I have here the opinions of four leading obstetricians, not only of this country but of the world; namely, Professor Charles M. Green, Professor of Obstetrics, Harvard University; Dr. Williams, Professor of Obstetrics, Johns Hopkins University; Dr. Kirk, Professor of Obstetrics, University of Pennsylvania; Dr. Lee, Professor of Obstetrics, Northwestern University. These men have all given twilight sleep a thorough trial and they all condemn it.

In a conversation with one of the nurses in a local hospital this afternoon, she told me that, about three months ago, her best friend was given one injection of this treatment in Indianapolis,

and she died three hours after the birth of the child.

With all due respect to Dr. Davidson and the results he has achieved, I think twilight sleep should be regarded as unsafe. I can remember when we gave spinal injections of cocaine; in fact, I believe I was the first man in Louisville to employ this procedure. I remember three cases at the old Louisville Medical College, in which Dr. Bullitt injected cocaine, and they were all delivered with absolutely no pain, and it was believed at that time that this procedure would prove to be a great boon to women in labor. Within a short time, however, it was noted in the large maternity hospitals, that many of the patients treated in this manner later developed abscesses, and it was finally abandoned as being too dangerous. Likewise, I believe that twilight sleep possesses an element of danger, and before using it I want to know a good deal more about it than we now know.

Wm. B. Doherty: I have greatly enjoyed Dr. Davidson's very interesting paper. Scopolamine appears to be a very dangerous drug. It is a depressant of the psychic center as well as of the heart and respiration. If we can relieve the sharp, nagging, lancinating pains of a tedious first stage of labour without doing any harm to the mother or child, or injuring the genital passages, we are in duty bound to do it.

It is good practice, therefore, to administer 1-6 grain of morphia and 1-200 grain of hyosine or scopolamine in a painfully long first-stage.

We know that scopolamine produces better sleep than atropine, but it is a more powerful depressant and many people are particularly susceptible to its depressing influence. Therefore, as we cannot draw a sharp well defined line between safety and danger in its administration, I believe it should not be used in labour in a larger dose than 1-00 or 1-50 gr. scopolamine with 16 gr. morphine; one dose and no more. Scopolamine tends to prolong the labour increases the danger to postpartum hemorrhage, and narcotization and asphyxiation of the child.

It does seem to me that we are getting away from the fact that labour is a physiological process, that we are treating many of our normal cases as pathological condition, as for instance, in the cases Dr. Davidson mentions, in which the woman was ten days overdue and he used the Harris method, that of rapid dilatation of the cervix with the fingers to bring on labour. I do not believe we are justified in employing the Harris method even if the woman has gone two or three weeks over time, which would be difficult to say with any degree of accuracy. It increases the danger to mother and child, and is uncalled for, unless serious complications suddenly arise.

What harm is done if the first stage of labour is prolonged eight or ten hours. I have never seen a healthy woman die of exhaustion in nor-

mal labour. Let the woman get some sleep during the first stage, but avoid giving her dangerous depressants.

As to pituitrin, I consider it dangerous except in small doses and I rarely give it. Possibly the nurse Dr. Gossett mentioned is one of wide experience of whom I asked the question: "What is your candid opinion of the use of pituitrin in labour, as you have seen a good deal of it used?" She replied, "From my experience here, pituitrin is a dangerous drug and I am sure the perineum is oftener torn severely by its use, than its non-use.

Another fad that has come in vogue is to starve a pregnant woman three or four weeks before labour, reducing her almost to a condition of skin and bone with the hope that her child will not weight more than six pounds and in consequence an easier delivery.

This I learn is being done in the East, although I do not know that it has been practiced in Louisville. It seems to me that the tendency to ignore the life of the child is becoming more and more pronounced. Its right to live is often not taken seriously or justly into consideration.

The implorations of the mother for relief of pain should never induce us to administer a dangerously depressing drug.

For 'tis the curse of evil deeds

"That they give way to greater evils."

The use of the forceps when properly applied can do little or no harm while pituitrin and so-called twilight sleep tend to danger.

Sidney J. Meyers: I wish to congratulate Dr. Davidson upon the success he has had in the use of twilight sleep. I am sure that every word he has said is true, because I am familiar with several cases that he has delivered at the Norton Infirmary.

When a man takes up one special line of work, he is apt to become a faddist, and to accept responsibilities that men in general practice would not assume. When we stop to consider the great preponderance of cases of normal labor that we see as compared to the abnormal ones, the thought at once suggests itself that we had better stick to the safe, old-fashioned methods instead of trying new things. I used pituitrin until I had bad results from it, and then discarded it. I will probably use hyosine and morphin until I have some bad luck and then discard them also. Going back over the field of obstetrics during the past twenty years, what progress have we made except in one or two things? True, we have made wonderful progress along the line of asepsis and in protecting the perineum, and if we do rupture the perineum, we know how to repair it so as to get good results. If, as we believe, ninety-eight per cent of labors are normal, why do we have to use these new drugs and methods?

There is one thing in particular mentioned in the doctor's report that I would condemn; namely, the induction of labor in cases where the wo-

man has, according to her count, gone ten days or two weeks over time. It has been my observation that many of these patients are poor bookkeepers.

I would also condemn the starving of these patients, as mentioned by Dr. Doherty, except in cases where there is marked albuminuria, and we limit the diet as a means of preventing convulsions.

Another practice in connection with obstetrics that should be condemned is the early catheterization of the patient. As a rule, in hospitals, if no urine is voided during the first eight hours following labor, a catheter is introduced into the woman's bladder; the doctor not being consulted at all. I condemn this practice in cases of normal labor.

One form of intervention that I favor is this: In the second stage of labor, with the head low on the perineum, with pains feeble or absent, and the patient is getting tired, a low-forceps operation will help matters, and it can be done without harm to the mother or child and without injuring the soft parts.

Ben Carlos Frazier: I have not given twilight sleep in the manner described by Dr. Davidson, although I have used morphin and scopolamin and, so far as the mother was concerned, the effect was most delightful, but in three cases that I have delivered in this way, the babies were asphyxiated and it took me some time to get them to breathe. This experience has made me somewhat doubtful about the use of these drugs in labor. I gave only one dose—the ordinary Abbott tablet, containing 1-4 grain of morphin and 1-100 grain of scopolamin, in the early stage, followed by the use of chloroform in the later stages. In one case the result was particularly gratifying. This was a primipara, whom I was called to see about eleven o'clock at night. She had been in labor about three hours. I gave her one tablet hypodermically, and she slept continuously until about six o'clock the following morning when the baby was delivered. She received only one or two drachms of chloroform and hardly knew what was going on. Therefore, I am inclined to believe that it may not do the mother any harm, there is a possibility of great harm to the child, and I would warn you to be very cautious in its use for that baby's sake.

C. H. Harris: I belong to the ranks of the agnostics so far as twilight sleep is concerned. It has not been my practice, in obstetrical work, to give drugs in the early stage of labor for the relief of the pains which Dr. Doherty calls "nagging." I have always been afraid of any form of alkaloids in labor; they are very dangerous drugs, and while we may "get by" with it in many cases, there will come a time when we will cease to use them. There is a tendency, especially among the American people, to be afraid of anything that hurts. Every one who comes into the world must come by the same route, and it seems

to me that women should be willing to bear labor pains for the sake of having large families. In my own family my wife complained less of the pains of labor than of any other form of pain that she has had to bear.

I believe Dr. Doherty struck the keynote of the whole thing; we are apt to become faddists—we want to be "in the swim." I know of one man, who has a very large obstetrical practice, who dilated the cervix and delivered a woman at the end of the seventh month of pregnancy, simply because the woman did not wish to bear a large baby. As Dr. Doherty has pointed out, the child has some rights. We are taught that a foetus doubles in size during the last two months of pregnancy, thus giving it a good start. We do not take the rights of the child into consideration when we give hyosein or scopolamin to relieve the labor pains, just as we used to give aconite to relieve the labor pains, just as we used to give aconite and veratrum viride. While I like to be "in the swim," still I do not believe I could be induced to use hyosein, scopolamin, aconite or veratrum viride in labor. Just at the time when we most need to get rid of the excretions of the body, we tie up the circulation, and place the woman's life in jeopardy, and I for one wish to condemn this practice.

A. R. Bizot: I wish to congratulate Dr. Davidson especially upon the fact that all of his patients seem to be able to go to an Infirmary to be delivered. While I do not make a specialty of obstetrical work, it occasionally devolves upon me to deliver a woman. During the month of August I chanced to have one of those aggravating long-drawn out cases. I gave the woman 1-4 grain morphin and 1-100 grain scopolamin, but her pains were not relieved. After she had been in labor about three hours I gave her 1-200 gr. of hyosein and so far as the mother was concerned, the effect was most gratifying, but the child was born asphyxiated. I used every method I knew of to resuscitate the child, and after working with it for thirty-five minutes I finally elicited a groan. Finally, however, I succeeded in reviving it. To make a long story short, perhaps some time next spring I will get as much as fifty cents out of this case.

J. Rowan Morrison: While I have not had an extensive experience in obstetrical work, I wish to say, something in favor of the pains that women in labor have. Like Dr. Harris, I do not believe in the indiscriminate use of these drugs in labor. If we can rely upon the reports that appear in the medical journals it would appear that they may be used indiscriminately without doing any harm, but there are many instances where the results are not so good, as indicated by the cases mentioned by Dr. Frazier. I agree with Dr. Davidson, that these cases should be in the hospital.

I have observed, in my work, that there is a great deal of difference between 1-4 gr. and 1-6

gr. of morphin. By the administration of 1-6 gr. of morphin we can secure rest and a well-acting heart, with an absence of fear, whereas by giving 1-4 gr. or more we interfere with the action of the kidneys and bowels, which may result in considerable harm. There are many new things that we are apt to condemn without taking into consideration the fact that they may be employed with great benefit in selected cases.

Wm. Sanders: Only a day or two ago I administered morphin and hyoscin to a woman 41 years of age. This was her second delivery, having had one premature birth. She has been kept on the rack by kind and solicitous neighbors with their stories of the wonderful things that might happen to her. Consequently, when labor pains came on about six o'clock in the afternoon, she became very much excited and worried. I was called and gave her 1-8 gr. of morphin and 1-200 gr. of hyoscin. I think Dr. Frazier gave too large a dose to facilitate dilatation of the cervix. This woman's cervix was fully dilated. I gave her 1-2 c.c. of pituitrin and I believe this saved me the use of forceps. She was delivered of an eleven-pound baby without a tear. I have employed this method in some fifteen cases with very happy results. We should be careful not to give too large a dose; it is not necessary. I have used pituitrin a number of times, and I believe that it has frequently saved me the use of forceps. However, I never give it until the cervix has become fully dilated, and never more than 1-2 c.c.

H. A. Davidson, (Closing): If I had been afraid of criticism, I would not have presented the subject of twilight sleep. I expected just what I received, and a little more. In fact, I did not expect anything to be said in favor of it. That is true of every new thing. The man who is willing to be the first to use a new thing gets the knocks, and later on they all come into the band-wagon.

Dr. Gossett I believe read some extracts clipped from the Ladies Home Journal. I had already read these opinions very carefully and digested them. These obstetricians gave the results of their experiments six, eight or ten years ago. As stated in the paper, I also discarded it at that time on account of the unfavorable reports from all over the country. We used the drug then as recommended by Dr. Gauss, 1-4 gr. of morphin and 1-100 gr. of hyoscin, just as Dr. Frazier did in his cases. That is too large a dose.

Of the four obstetricians mentioned by Dr. Gossett, I believe the greatest is Dr. J. Whittidge Williams, of Johns Hopkins, and you may have noticed that, in his statement, he said that he had used it in former years with indifferent results, but that he is using it this year under the modified method.

In regard to Dr. Doherty's remarks, it is admitted that twilight sleep does prolong labor; at least, this has been true in four thousand cases observed at Freiberg, but what difference does it

make to the woman if she knows nothing about the pains. In fact, it does the very thing that Dr. Doherty says is necessary; that is, it gives nature an opportunity to do her work properly, and prevents the woman from getting into that stage of nervous collapse where she insists upon the use of forceps. I believe I have been able to deliver many cases without forceps in which it would have been necessary without the twilight sleep.

One of the greatest obstetricians in Berlin, whose name I cannot just now recall, was one of the most pronounced opponents of twilight sleep. After Kroenig had used twilight sleep in one thousand cases, a comparison of the statistics with those of this great obstetrician showed that Kroenig's results had been more brilliant in every respect, and were better than those obtained in any hospital in the world. Of course, I realize that the ten cases I have reported are not sufficient to enable us to make any comparisons.

If I may be permitted to digress a moment to answer Dr. Doherty's objection to the Harris method of dilatation, I believe it is generally accepted by obstetricians that, when a woman has a contracted pelvis, as I knew this woman had, if we allow the child to go on too long a time, the head will become too large, and make the labor a most difficult one, and the Harris method is generally considered to be one of the safest means of dilating the cervix and bringing on labor.

Dr. Bizot called attention to the fact that we cannot use this method in every case. Of course, we all have patients who are too poor to go to an infirmary or to have two trained nurses present. At the present time, am insisting upon two trained nurses, alternating with each other, during the first twenty-four hours after the baby is born, but when twilight sleep becomes more generally used, I believe that one thoroughly competent nurse will be sufficient. As to the asphyxiation of the child in Dr. Bizot's case, I believe that was due to compression of the head in the pelvic canal and the use of forceps. I do not believe the hyoscin had anything to do with it. The child was not delivered until twelve hours after it was administered, and we know that hyoscin is eliminated ever more quickly than atropin, and there would be none in the system twelve hours after it was given.

I saw Dr. Speidel on the street the other day, and he remarked that he was sorry he would not be here to-night, but that if he were he would indorse what I had told him about twilight sleep, and that he had used it with good results.

UTERINE MYOMATA AND MALIGNANCY.*

By JOSEPH G. GAITHER, Hopkinsville.

The subject of this paper, "Uterine Myomata and Malignancy," is not one of my choosing. It was assigned to me, like the day's parsings in the school-boys' Anabasis. In fact, in the slang of the times, it was wished on me by the chairman of the programme committee.

Now, there are some excellent reasons why this subject did not appeal to me. First, I have never seen a case of a malignant change in a myoma, and I have served six years in surgery in the State of Mississippi, where fibroids abound among the negro women as abundantly as bolls on a delta cotton plant. I just have not seen any fibroids become malignant and had my doubts about it.

That is one reason I did not want to write a paper—try to write about something I had never seen. But I knew there would be others here doing the same thing, so I took comfort.

Then the chairman asked for a twenty minute paper. I knew I could exhaust my available supply of information on this subject in much shorter order than that. There was only one thing to do. Refuse to write the paper or call for help. I did not want to refuse because Dr. Anderson in his invitation had said so many flattering things, that the implied compliment would be lost.

So I decided to call for help.

Seriously, therefore, gentlemen, I desire to present to you the most recent opinion among the pathologists and surgeons of the south in regard to malignancy and uterine myomata. I have written to a number of them, many of them my close friends, many strangers to me asking for their statistics and their ideas concerning the subject before us. They have written me promptly and fully, and I feel we may derive some definite good from an analysis of the cases they report.

First, then, to a consideration of uterine myomata. They are simple connective tissue tumors, composed of whorls or unstripped muscular admixed with white fibrous tissue—this in the seedling. As they grow, the preponderance of one or the other changes the consistency of the tumor, and we have the fibroma, the fibromyoma, or the myoma. Realizing that the tumor under consideration is strictly a connective tissue tumor we understand readily that any malignant change, which it may undergo must be of a sarcomatous nature.

If it should undergo this change, then the death of the patient would be that of cachexia and a metastatic sarcomatosis. Certainly this is not the method of death that any of us have observed in fibroids, in fact it must be a very rare type of death.

I shall rule out of consideration, in this paper, the coincidence of cancer of the cervix and fibroids in the same uterus. There is no casual relation. The same thing cannot be said of cancer of the body and submucous fibroids. There they may act as a direct and continuous irritant to the corpus mucosa, of the uterus. Murphy holds that carcinoma usually develops as the result of oft repeated irritations, and that sarcomata are the result of one trauma of moderate severity. So, I can well imagine that theoretically, intrauterine polyps of submucous fibroids may supply this factor. But, actually, the number of cases of carcinoma of the body, in fibroid uteri is practically negligible. We will revert to this phase of the subject later.

I shall make you but one quotation from the authorities, invoke them but momentarily. Bland-Sutton says, "It is believed by many that a sarcomatous change may occur in uterine fibroids. The matter has been carefully considered by competent men, and a critical examination of the evidence makes it clear that in a very large proportion of the cases described as sarcomatous degeneration, the changes were due to septic infection. The great defect in nearly all the recorded cases, in which malignant change has been suspected, is the absence of the mode of death, where the patient survived the operation. Sarcomata are so prone to disseminate that any patient who has died in consequence of malignant degeneration of a fibroid would be expected to have secondary nodules in the lung at least."

That is what Bland-Sutton thinks about sarcomata developing from fibroids—that they do not develop.

I have sent a questionnaire asking if the recipient believed that fibroids became malignant, if they had clinical or microscopical proof of such fact, how many fibroids they had removed, the operative mortality, the symptoms urging to operation, et. This was sent to a number of active surgeons and pathologists throughout the South.

I shall ask your patience to go over rapidly with me, the individual replies that we may derive our conclusions together.

The first is from Dr. William Krauss, eminent pathologist and haematologist of Memphis: "The malignancies in connection with uterine myomata are of two kinds. First, those occurring in the tumor itself. These are always sarcomatous. Second, malignancies

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

within the uterus itself, secondary to irritations from the tumor. These are generally adeno-carcinoma of the body. I know of two instances of squamous celled carcinoma of the cervix occurring together with myoma."

Dr. Krause does not report having seen cases of sarcomatous degeneration that afterward died from general sarcomatosis.

Dr. Jere L. Crook, of Jackson, Tennessee, former president of the Tri-State Medical Society, a surgeon of large experience and a visitor at many clinics, reports that he has never had any occasion to observe degenerative changes in fibroids. Two cases of supravaginal hysterectomy for fibroids are reported by him for extreme conditions, one with such marked displacement of the bladder that urination was impossible without catheterization, and this was with difficulty; the second case for a menstrual haemorrhage that almost proved fatal to the patient.

Dr. W. A. Bryan, of Nashville, one of our most recent Southern authors, a surgeon with an especially keen interest in malignancy, writes as follows: "I had a case of fibroid the size of a tangerine orange. It remained stationary for ten years. Suddenly it began to enlarge and grew to thirteen pounds in six months. On removal it proved to be a spindle-cell sarcoma. This case is illustrated in Bryan's "Principles of Surgery." He therefore believes that a fibroid may become sarcomatous, though rarely.

Dr. C. C. Bass, of New Orleans, laboratory expert, pathologist and horticulturist of the malarial haematozoon, does not believe that uterine myomata undergo malignant changes. He asserts that any cases of malignancy which are found in fibroid uteri are there coincidentally and not casually.

Dr. J. A. Crisler of Memphis, skillful surgeon of wide experience, careful in all his records, answers that he has had five cases of malignancy in fibroids, with the proof both by the microscope and the clinical history. Two of these were in the cervix and three in the corpus mucosa, this number from 1100 fibroids removed in his clinic in the last eight years. In conclusion he says: "I am not able to say positively that the malignancy began primarily in the tumor or in the mucosa (latterly involving the tumor) in my five cases. His opinion is, therefore, that malignancy occurs from fibroids, though rarely.

Dr. John B. Murphy, of Chicago, reports one case of malignant degeneration in a uterine myoma. He says in regard to it: "Microscopic examination of it, showed it to be a sarcoma, but the gross appearance of it lead one to believe that originally it had been a fibroma. The growth appeared to come from the side of the fundus." He states that haemorrhage has been the most frequent symptom

forcing the patient to come for relief. Dr. Murphy concludes: "It is my impression from personal observation that uterine myomata rarely undergo sarcomatous degeneration which is the only type they show. It is my impression from the literature but not from my own experience, that carcinoma of the mucosa of the uterus is occasionally a complication of, if not induced by the presence of fibromata. There is nothing said in your review concerning fibrosis of the uterus which gives the condition known as *essential haemorrhage* which has been a rather strong feature in my experience. It is referred to in one of my recent clinics."

Dr. Sydney W. Johnson, chief surgeon to the Mississippi State Charity Hospital at Vicksburg, Miss., during the Noel administration, reports an experience of 500 hysterectomies for fibroid conditions. Two of these were malignant and died later of malignancy.

Dr. H. T. Inge, of Mobile, Alabama, one of the most active members of the surgical section of the Southern Medical Association and a man of mature experience, says that he does not believe that uterine myomata undergo malignant degeneration, that he has removed 52 by hysterectomy, with one death, that he has never seen any fibroids that died a malignant death. He says that the chief symptom that has brought the patient to the operation has been extreme pressure on bladder or rectum.

Dr. Louis Frank, of Louisville, a distinguished member of our Association, a skillful surgeon and close student, thinks that sarcomatous changes may occur in fibroids. He reports 125 hysterectomies in the past six years for fibroids. In the malignant cases he says he has observed the malignancy in cervix and corpus mucosa, most frequently the latter. All yet living. Never saw one beginning within the tumor which could be thought a degeneration.

Dr. H. R. Shands, of Jackson, Mississippi, who does a large surgical practice among a population where fibroids are very common, has never seen a sarcomatous change in a fibroid. He adds thirty hysterectomies with no mortality.

A similar report comes from Dr. J. W. Barksdale, of Winona, Mississippi, for some years associated as assistant in Memphis with one of the leading surgeons of that city, and for ten years one of the most distinguished surgeons of Mississippi. He reports 58 hysterectomies for fibroids, none of which showed any sarcomatous degeneration. He believes if it does occur it is a very rare event.

Quite on the contrary is the opinion of Dr. Richard Barr of Nashville, who writes as follows: "I can only say that I have had enough cases with malignant changes in uterine fib-

roid, to make me emphasize the danger to all patients with such tumors, and to make me prefer pan-hysterectomy to supravaginal amputation in treatment."

I may add briefly my personal quota of 17 hysterectomies for fibroid condition of the uterus. In none of these was there any malignancy, nor have there been any to develop since the operation. I lost one patient at the end of the third day with a violent peritonitis. It was a perfectly clean case, and I never knew where the infection crept through my technique. It was a very large tumor weighing eighteen pounds.

I shall conclude the report with the answers of two men who have had exceptional experience as abdominal surgeons, and with fibroid tumors of the uterus; Dr. L. S. McMurtry of Louisville, and Dr. Frank D. Smythe, of Memphis.

Dr. McMurtry writes: "When I began work in Louisville in 1890, no operation for the cure of fibroid tumors of the uterus had been done here. I did the first successful operation of supravaginal hysterectomy for fibroid done in Louisville, and have continued at the work until the present time, my latest case having been done yesterday morning." During this time I have encountered almost every possible variety of tumor and almost every possible complication. It would require several days work to go over my record during these years and enumerate the operations. I can say to you, however, that I have done a large number of these operations during the last year, more than one hundred and without any mortality whatever. In the early years, before the technique was perfected, the mortality was considerable. It is now about the most successful major operation in abdominal surgery.

I have seen numbers of cases in which malignant changes have developed in fibroid tumors. In one case, carcinoma developed in the cervix which was left after supravaginal amputation for fibroid. In numerous cases I have encountered sarcoma with fibroid tumors. I think, however, that the proportion of fibroids which undergo malignant change has been exaggerated by writers upon the subject."

The final report I shall give you is from Dr. Smythe. He says: "I have had for the past fifteen years, quite an extensive experience with the surgical treatment of fibroid tumors of the uterus, and have been impressed with the fact that cancer is an occasional complication and that carcinoma, when existing, is a separate and distinct trouble from the myomata.

In about one and one-half per cent. of cases, I have found coexisting sarcoma or the tumor had undergone sarcomatous changes in each

instance. The sarcoma was found situated in the tumor, or had become a part of it.

The remote effects of the presence of fibroids of good size are rather more common than they are usually believed to be and are much more important than the local symptoms incident to the tumor. Changes in the myocardium are common, serious, often permanent, contributing largely to the deaths incident to surgical interference. Liver changes are likewise common, and interesting and important. The same may be said regarding the changes that take place in the kidneys due to pressure and the toxemia of the tumor."

He adds 250 hysterectomies for fibroids, none of which died later of malignancy.

Now to the conclusions.

We have reported from these distinguished surgeons approximately 2617 hysterectomies for fibroid. Eliminating cancers of the cervix, there appears to have been five cases of sarcomatous change in the tumors and six cases of carcinoma of the mucosa of the corpus uteri.

We, therefore, are led to believe that a sarcomatous change in uterine myomata is a very rare event.

We also conclude that many surgeons hold varying opinions.

We conclude that in the future, cases classed under the head of sarcomatous changes, should be confirmed microscopically, and more important still, by the death of the patient later with metastatic sarcomatosis in the lungs and in the liver or other parts of the body.

We also conclude that fibroid uteri are a distinct menace to the integrity of cardiac, hepatic and renal tissues. I am not interested with the fact that a fibroid of some size always causes a toxemia of serious consequence. The patient who comes to you at thirty years with a fibroid as large as a lemon, but with an intact cardio-vascular system, will return at forty with an abdomen full of tumor and flabby heart muscle, with murmurs, organic or haemic.

I feel toward uterine myomata as I do toward exophthalmic goitre, that they are a serious menace to future health and though it may be quiescent in the abdomen for years, causing little trouble from either pressure or haemorrhage, yet is slowly, silently, painlessly poisoning the musculature of the heart.

The early supravaginal excision of the myomatous uterus is simple in performance, safe and permanent in its results.

Uterine myomata, therefore, should never be given a chance to become sarcomatous. As soon as they reach sufficient size to give definite symptoms they should be removed.

WHO SHOULD DO SURGERY?*

By AP MORGAN VANCE, Louisville.

In the above title the committee on program has allotted to me a delicate and difficult task. Hard and fast lines cannot be drawn as to who should do surgery, as so many varying conditions tend to alter the case.

The ideal surgeon of to-day must be a very high class man, as his calling is second to none, and his responsibilities the greatest of all men. This standard has been held for centuries, as illustrated by the following text promulgated by a noted French physician, Guy de Chauliac, in the fourteenth century, recently unearthed and sent to his friends as a New Year greeting by a distinguished surgeon of our southland: "Let the surgeon be well educated, skillful, ready and courteous. Let him be bold in those things that are safe, fearful in those that are dangerous; avoiding all evil methods and practices. Let him be tender with the sick, honorable to men of his profession, wise in his predictions; chaste, sober, pitiful, merciful; not covetous nor extortionate; but rather let him take his wages in moderation according to his work, and the wealth of his patient, and the issue of the disease, and his own worth."

To show that the same high standard is held to-day by right-thinking surgeons, I will quote from the fellowship pledge of the American College of Surgeons a sentiment somewhat differently worded but very similar to the foregoing: "In particular I pledge myself to pursue the practice of surgery with thorough self-restraint and to place the welfare of my patients above all else; to advance constantly in knowledge by the study of surgical literature, the instruction of eminent teachers, interchange of opinion among associates, and attendance on important societies and clinics; to regard scrupulously the interests of my professional brothers and seek their counsel when in doubt of my own judgment; to render willing help to my colleagues and to give freely my services to the needy. Moreover, I pledge myself, so far as I am able, to avoid the sins of selfishness, to shun unwarranted publicity, dishonest money-seeking and commercialism as disgraceful to our profession; to refuse utterly all secret money trades with consultants and practitioners; to teach the patient his financial duty to the physician and to urge the practitioner to obtain his reward from the patient openly; to make my fees commensurate with the services rendered and with the patient's rights; and

to avoid discrediting my associates by taking unwarranted compensation."

If we maintain the standard demanded by these sentiments, it is easy to see that only men of the highest character should do surgery. The education of the present-day surgeon has many difficulties. The money expense is so great and the time to be expended so long, that it is prohibited to all but a favored few. The primary education, the four years in medical school, two years in a general hospital, the three to five years as assistant to an active surgeon,—is more than the average man can devote to the preparation for his life's work. The old expression "a born surgeon" is obsolete; surgeons are only made by hard work and conscientious application and study of the object in hand. The idea which prevails among ambitious young graduates in medicine that they can go from the top benches at the end of their fourth year into the surgical arena and open abdomens is one to be much deplored; another is that the man after practicing for a more or less time as an internist gets the surgical "bee in his bonnet" and decides to take a six weeks post-graduate course in surgery at one of the many schools for this purpose, and returns to his clientele as a full-fledged surgeon! The havoc wrought by this man is easily to be imagined and more to be deplored than the recent young graduate's over-enthusiasm, as it is hard to "teach an old dog new tricks."

Still another class is represented by the man who has essayed to do surgery in a moderate way. He visits some great clinic at home or abroad, sees plates applied to ununited fractures, or possibly to a recent fracture; sees wire nails driven through the trochanter into the head of the femur to better the condition following a hip fracture; or possibly sees a resection of the pylorus or colon. It all looks easy and why should he not do it? He forgets how many operations upon the cadaver or upon animals the experienced surgeon whose clinic he is attending has done before he braved the one on the human being!

It is plain, then, that the man who poses as a candidate for surgical practice must be prepared to deliver the goods; he must have added to what natural aptitude he may possess conscientious study of all branches of medicine as taught in a first-class medical school, paying particular attention to laboratory work of all kinds; not that the surgeon is expected to do laboratory work himself, but he must be able to interpret findings by others. After graduation a hospital service followed by a prolonged assistantship is a necessity, for it is only by prolonged contact with a large number of cases that the intellectual skill is to be acquired, that is the ability to tell when surgery is needed, the key-

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

stone to the completed structure of his education. The same may be said of the manual skill. A happy and effective combination of the two is more or less rare, that is one may be intellectually skillful and a poor operator, and *vice versa*. The first can be acquired only by taking advantage of every opportunity of seeing all the gross pathology he can and whenever he can, the study of normal anatomy by dissection and studying the relations and non-pathological portions of any cadaver autopsied that may come under his observation.

The mechanical part of the surgeon's education should begin early. He should learn the use of tools, and as soon as possible he should practice the use of instruments, especially the needle, on the cadaver; and if this is not feasible on the human subject, use animals. If the whole animal cannot be conveniently obtained, get the viscera of the sheep, calf or hog from a near-by slaughter house and practice with the needle and thread. The proper use of these parts of the surgeon's armamentarium often means the life of the patient, while even one stitch improperly applied may entirely change the operative result.

Men in large centers have the advantage over their outlying brethren, but with the same preparation there is no reason why those in small places should not do good surgery; and of course when they get the results they deserve proportionately more credit than their more fortunately circumstanced city brothers with the advantages coming from trained assistants, nurses and hospital services. The main thing here is to educate the people to the point of permitting surgical intervention before the case has advanced too far for anyone to conserve life. The time lost in going away from home for assistance often decides the fatal outcome. In emergency surgery, for example gunshot and knife wounds, intra-abdominal inflammation, fractures of the skull and bowel obstructions, anybody with the legal right should do the best they can to conserve the life of the patient. Even if this right does not exist, it is often the duty of a layman to give the first aid, which may be the means of saving a life. Hence the statement that hard and fast lines cannot be drawn as to who should do surgery. Hard and fast lines can be drawn, however, as to the fitness of those who make claims to first-class surgical ability, as that great lamented surgeon, whom many of us knew, Dr. Maurice H. Richardson, said: "Surgical operations should be performed only by those who are educated for that special purpose. Some men have good judgment in advising operations, with but little skill in performing them; others have bad judgment in ad-

vising operations but splendid technique in performing them; still others are not only poor diagnosticians and men of bad judgment, but are clumsy operators! Important, if not essential qualifications for the surgeon are strength, endurance and hopefulness. The surgeon should have the power of being cheerful under the most discouraging conditions."

Thus you see what a very all-around man an up-to-date surgeon must be, and how few who are now in the arena "measure-up" to the real requirements. We often hear it said that before taking up surgery a man should practice general medicine for a more or less time: This is a fallacy. The best surgeons as a rule are those who have never done anything else. All of medicine that is required is to be attained in the medical school and the subsequent hospital sojourn. Experience teaches us that the internist often looks too long for other than surgical causes in many ailments and permits the opportune moment to pass for the surgeon to save the life of the patient. When he begins the practice of surgery, this habit is still operative, often to the detriment of the patient. As the surgeon has the medical man, who usually sees the patient first, to rely upon for medical counsel, he should waste very little time in gaining experience along medical lines.

In closing this very short paper I wish to say, after a good many years of surgical work, that no calling compares to it in real trials and tribulations. When a man practices surgery, he must make it his religion. As I have said, there is nothing higher in this world's work, that is if it is practiced with the spirit laid down by the Frenchmen of the fourteenth century already quoted.

The following contribution to the surgeon, although anonymous, seems worthy of repetition:

As high priest, teaching an acolyte,
He watches over each holy rite,
The flame and water to make them clean—
Body, and garments, and weapons keen—
With sacred care for a sacred strife;
To rout a foe in the House of Life!
For blade and body must both be pure,
And hand be steady, and eye be sure,
And weapons purged in the fiery glow,
Whenever he wars against a foe.

With joy of battle his soul is rife,
Behold! He enters the House of Life
His flashing blade it is dripping red—
He follows fast where the trail has led,
To the sacred shrine with ruby throne,
Where Life has fought with the foe alone.
As the high priest's hand may lift the Veil,
He boldly enters the holy pale;

His hand is steady, his weapon bright—
The foe is vanquished and put to flight!
And Life awakens with anguished breath;
For man has grappled and beaten—Death!

DISCUSSION.

Cyrus Graham, Henderson: Mr. President and Members of the Kentucky State Medical Association: According to Dr. Vance's paper, every man who is a graduate of a reputable medical college is or is not competent to do surgery. We also infer from Dr. Vance's paper that a knowledge of general medicine is not necessary to do surgery; and he puts his indorsement on what Dr. Maurice Richardson said by quoting the following: "Surgical operations should be performed only by those who are educated for that special purpose."

"Let the surgeon be well educated, skillful, ready and courteous. Let him be bold in those things that are safe, fearful in those things that are dangerous; avoiding all evil methods and practices; let him be tender with the sick, honorable to the men of his profession, wise in his predictions; chaste, sober, pitiful, merciful; not given to covetousness, not extortionate; but rather let him take his wages in moderation according to his worth."

This beautiful and classic admonition of the celebrated French surgeon is in epitome, the story of surgical honor, surgical adaptation and surgical success. One who cannot admire the depth of its teachings and the beauty of its words, is as one who takes no interest in the sun, moon, and stars, and to such a one, simplicity, beauty and light tell no story.

If the essayist had taken for his subject, "Who Should Do Major Surgery" in all of its most intricate branches, then I should be justified in using the stereotyped phrase in opening this discussion, "The essayist has fully covered the ground and has left nothing for me to say."

As it is, with the courage of my convictions, and the knowledge of what men like Walter Brasher of Bardstown; Charles McCreary of Hartford, Ohio county, and Warren Stone, have done, and a Scotchman's love for an argument, I have somewhat to say.

The doctor has covered the ground so well, and sits upon the fence so gracefully that it seems a shame to butt in and raise an objection to his paper, which is so classically written, so beautiful in diction, and yet, so diverse in its conclusions, that it is a prose poem, and should be read and discussed with poetic license.

Through it all, like the scarlet thread that winds its way through every rope and cordage of England's navy, there is a vein of egotism that smacks of the surgeons of a decade ago, when all wisdom found its Alpha and Omega with them.

Also, it reminds me, not so much in what the essayist has read, but in what he has left unsaid between the lines, of the young lady that asked

her mother if she might go out to swim, and the mother answered: "Yes my darling daughter, just hang your clothes on a hickory limb, but don't go near the water."

The young doctor starting out in life may have the ambition and ability to do good work, but according to the essayist, unless he has all the training mentioned, he must like the girl who wanted to take a plunge in the "old swimmin' hole"—just read all of the hypothetical papers he wants to before the societies, treat mumps, measles, fevers and lues, but when it comes to surgery, that is often simply a matter of technical skill, asepsis and plumbing—"he must not go near the water."

With earnest protestations he declaims with horror about the "havoc wrought" by the young fellow with a "surgical bee in his bonnet," forgetting that more than seventy-five per cent. of all surgery must and should be, and is done by those whom he would disqualify. I have seen "havoc wrought" by some of the best surgeons in America, that would make a cigar store Indian shed tears of dismay.

"I'm sure all the McDowells
And Simses' are not dead.
I'm sure that "men of bowels,"
Are oftimes country bred;
The "mate inglorious Miltons,"
Of whom the poet sang,
If buried in Westminster,
Would fill the whole shebang." (Laughter.)

The Chair: Your time has expired Dr. Graham.

Louis Frank: Mr. President: I move that the gentleman's time be extended, and that he be allowed to finish his discussion.

Seconded.

The Chair: All in favor of extending Dr. Graham's time let it be known by voting aye! Carried! Dr. Graham you will continue the discussion.

Dr. Graham: Thank you, gentlemen!

Suppose that W. T. Briggs with more than 500 lithotomies to his credit had been content to follow the ideas laid down in the essayist's paper? Suppose that McDowell, Dudley, Sims, Crawford Long and Cartledge had been content to remain in this innocuous class where Dr. Vance would have had them placed? As our honorable President (Dr. Roberts) said in his address before the Southern Surgical and Gynecology Association: "The pioneers of surgery had no well-ordered operating rooms, and no laboratories to supplement their work," faint and nebulous were their ideas of bacteriology and they "knew nothing of streptococcus aureus, albus, nor bacillus pyocyaneus foetidus, tubercle bacillus, plasmodium malaria, treponema pallida, nor any of the thousand and one microorganisms, vegetable and animal, with unpronounceable names, and malignant affinities for the flesh of man;" nor were their salad days and nights haunted by the

terrible phantasmagoria of the spirochetæ palida, nor double back action nightmares caused by incursions of the festive gonococcus. The theory of anoci-association, as enunciated by the eminent Crile, was still in the misty future, and yet, and yet, they got there just the same. If these great surgeons had let a want of education and training hold them back they would have had about as good a chance of getting into halls of the surgical Valhalla, as a tallow-legged dog would have in catching an asbestos cat in hell. (Laughter.)

Why, Archie Dixon of Henderson! You all know him? Ex-President of this Association and Ex-President of the Mississippi Valley Association informed me not long since that the only major operation he saw while in college was seeing David Yandell amputate a leg, and he can number his successful operations by the hundreds. Would the essayist denounce him for the happy homes he has made, even though he has not the hospital training that the essayist deems absolutely necessary?

In almost every town in Kentucky, we have men who are doing good work, and I would like right here, to enter a plea for these country doctors, surgeons and midwives, too. The surgeon of the little town, who with the fear of God before him, and a full knowledge of his own limitations, is often called upon to grapple with and beat death upon an improvised surgical table, and without many of the modern sanitary accessories.

His people look upon him and love him as a monarch by the right of toil, and a surgeon by the right of hope.

Have we forgotten the story of Bonnie Briar Bush? And Gentlemen! I have seen Ian McClarens right here in Old Kentucky, helping each other operate, and operate successfully under the most adverse surroundings.

I know of one country doctor who left the State Medical Association at one o'clock in the morning, rode three hundred miles to his home, arriving there at 4 in the afternoon, a call was waiting him to go sixteen miles in the country to see a strangulated hernia, not waiting for dinner, he drove these sixteen miles in his buggy and on arriving at his destination placed the patient on the dining table, and with the neighbors holding lamps around him, and with the assistance of one of these country doctors performed a successful operation.

"I have seen him again with a knife and things an' the sweat was on his brow.

'E was trying to mend the guts of a bloke as 'ad spiked 'isself in a row;

'Twas late at night an' 'e 'adn't any light, to see what 'e had to do,

And his pal was a doctor, a country doctor, surgeon and midwife, too." (Laughter).

Ye surgeons of the city, with your great hospitals, corps of trained assistants, and all the

aseptic advantages of equipment and education, I say God bless you! And ye interns of the lint and lance, who drive in the cities' ambulance, you have our love, respect and envy.

We would not detract one jot or tittle from your well earned fame! nor would we disparage the splendid work which the laboratory has done for surgery, but remember, that there is one Dr. Timothy Hay, who wants to do, and is fully qualified to do this seventy-five per cent. of emergency surgery that falls to his lot, and when the emergency arises will be found at the bat, and not indulging in the "Twilight Sleep" as some would have you think.

He even proposes that the "high up surgeon" need not qualify in general medicine. There has never been a more dangerous and insidious proposition made before a medical society than that. I wish I had time to discuss that proposition.

He calls the necessity for the knowledge of general medicine on the part of the surgeon "a fallacy". His suggestions for the lack of it, and the long service needed in hospitals and as an assistant are not only fallacious, but they are so revolutionary that they might become dangerous.

Nor do I believe that Dr. Vance, with the splendid record he has built for himself, both as an operator and as teacher meant to convey some of the ideas which he has unfortunately advanced in his really valuable paper.

Would the essayist have our surgeons to become barbers as in the sixteenth century, and have them come and take orders as to what they should do? We learn to do by doing, in watching and pursuing the light that lies in the beacon light of hope and a worthy ambition to aid humanity that has always set the high mark of surgical endeavor.

"Look out for opportunity and when it comes rush in,

Don't wait because you fear you may not have the strength to win;

There may be others who could do your task with far more skill

Than you can do it—never mind go at it with a will;

They cut but little figure who remain in doubt immersed,

The world gives all the credit to the man that butts in first.

Old Galileo, probably, was not a whit more wise Than many another man of his day who gazed up at the skies;

Columbus may not have been blessed with special gifts that sent

Him where no other might have gone to find a continent—

But they who might have won the fame remained in doubt immersed,

The world gives him the credit who set forth to butt in first.

Old Howe's machine was but a poor contrivance at the start,
 McCormack's work has been improved in every joint and part;
 The boat that Fulton ran, would be a funny thing to-day;
 What Morse did—we have bettered, but his fame has come to stay,
 They did not wait for others who stood back in doubt immersed,
 The world gives all the credit to the man who butts in first."

To the essayist's appeal, that the surgeon be honest with both patient and consultant, I add a hearty, Amen!

J. Garland Sherrill, Louisville: This topic is one of extreme interest, and the last speaker seems not to have the same viewpoint as the essayist, and to my mind he has not quoted the essayist correctly. If I am not mistaken, he did not talk of emergency work being done by the layman, if necessary. Some important operations have been done by laymen, the first Cesarean section having been performed by a butcher, and dire emergencies justify such efforts being made by any person, whether he is competent or not, provided a competent person cannot be obtained. But when any man states that practitioners of medicine should do surgery without preliminary preparation, it is equivalent to saying that a man should practice without going to school or without any preliminary preparation whatever. I wish to submit the proposition to every man present here, would he submit himself to an operation by a man who had never had any preliminary training at the opposite side of the table from a surgeon or great operator? Or would you take the man who had previous experience alongside of some very competent man? I think you would. "We learn to do by doing." It is all right to learn to do by doing, but I do not want to be done on. I prefer to let a beginner practice on somebody else. I know that men with many years' training, not only in school, but in private practice, in standing and seeing others operate, in operating upon animals and studying the anatomy, in operating with the assistance of very competent men, make mistakes and many of them, and even with all this training if mistakes are made I consider it proper to demand that one should not essay to do serious surgery at the present day without having proper preparation. Do not stand back if an emergency demands, if you have nothing but a penknife, and not operate. I dare say, Dr. Vance has often operated with his pocketknife when an emergency arose and he was not in a position to obtain his regular instruments. There is nothing in the profession that should cause any friction between the general practitioner and surgeon. We should work hand in hand and side by side. There is one thing, however, I do wish to differ from the essayist in, and that is in re-

gard to the preliminary practice of medicine. It does not always make a man a more dextrous surgeon to have had a few years in general practice. He can wield the knife no more safely by this practice. Of course, it makes him a better diagnostician; it makes his mental vision broader in detecting various things which may be overlooked. The tendency of specialism is to narrow one's vision, but we should try to broaden it in every way possible, so that we may sweep the whole horizon and not look far or see any particular thing. A spendthrift may say that this or that man is suffering from such and such a condition, but he may overlook many of the ailments the patient has besides. The idea is to increase our knowledge, to broaden our point of view, so that the whole horizon may be taken in, so that we may grasp the entire field in examining our patient. We should look into the resistance, the ability of the patient to withstand an operation, and nothink tells you to do this better than experience. When you get out of college you think you know the whole business. The first year you are in school you think you know it all, but in the second and fourth years you begin to think that you know still less. When you go into a hospital and see this or that man doing major operations, you think you can do them, but you cannot. If you are properly trained, if you are in a well equipped hospital you may be able to do all these things. The more experience one has the more fully does he realize how much more there is to learn. The better preparation we make to do surgery in the beginning, the fewer the mistakes we will make.

James L. Toll, Lawrenceburg: The paper of Dr. Vance covers the subject so well and shows such excellent poise from a surgeon's standpoint little is left to be said. However those who do surgery alone naturally by virtue of their having seen so much surgery and having noted such happy results of some operations, have a somewhat different viewpoint to the general practitioner who sees both the surgical and medicinal treatment.

But it is not my purpose to discuss surgery versus medication, but rather to attempt to bring out the point that it does not require more proficiency or a higher standard of education, or a longer apprenticeship to become a high grade surgeon than it does to be an internist of equal rank. The definitions quoted by the essayist and the pledge of the "American College of Surgery," would apply equally as well to the physician. What is said regarding young graduates going forth with practically no experience to do surgery applies equally as well to the young physician. The victim of the lack of knowledge and experience of the young internist, is not one whit less dead than the victim of the young and inexperienced surgeon. It is true the results of surgery are more abrupt, are plainer in evidence than

the results of the interest, but they are not more real or more true.

It is true surgeons are not born, but it is further true that some are born so handicapped that they can never become surgeons. Some can never acquire that dexterity and proficiency in use of instruments that is so essential to the surgeon.

The ability to properly reason from cause to effect, a quality without which no one can be a diagnostician and thereby qualify as a surgeon, can not be acquired by all. Therefore some are born so handicapped that they may never be a high grade surgeon. Hence the danger of the "American College of Surgeons." He may have done all that is required for fellowship in the society, he is then stamped and labelled a surgeon. He may or may not be, for it is said "by their fruits ye shall know them." Then "who should do surgery" and who is entitled to pass on a man's qualifications for this work. We feel that the physician is peculiarly fitted to pass on this question. While not a surgeon he knows something of surgery, the family look to him for guidance on this question and his reputation to some extent depends on his ability to bring his patients back from the surgeon in good condition. Therefore we say a legislature is not competent to label a man a surgeon but rather do we think that the great body of general practitioners who form the bone and sinew of this society, and similar societies, should and will be the court of last resort on this important question.

Woodson H. Taulbee, Maysville: I wish to subscribe my hearty endorsement to all that Dr. Vance has said. He has presented one of the most important subjects that could be brought to the attention of any body of medical men. It is one that concerns every man, woman and child in this great country. It is one that demands immediate and radical attention. When I think of what my family or I may at some time be forced up against in the way of so-called surgeons, I am positively scared. I have, therefore, supplied my family with a list of men whose judgment I believe can be relied upon and have instructed them if in need of the services of a surgeon, being unable to procure one of these men or some one whom they would recommend rather to trust to luck.

There is no restriction or regulation to the practice of surgery. Any man who holds a diploma from any medical school has the same legal right to undertake to perform a surgical operation that has Dr. Vance. The causes of this deplorable condition are legion, as laxity of our laws, low grade medical colleges encouraging men who are unfit by reason of lack of education and moral character to enter the study of medicine, etc. The multiplicity of hospitals in small towns, where there are few or no surgeons, encouraging general practitioners, to undertake operations that they are incompetent to perform, is no inconsiderable factor. It is a most unfor-

unate state of affairs. It is a most disgraceful state of affairs and one that we should be ashamed of. We should be ashamed of it because we alone are responsible for it.

In the Court of Appeals of Kentucky there is pending to-day a suit for damages sent up from one of the lower courts. A man who has no moral right to undertake the care of surgically sick, whose very lack of preliminary education would preclude, forever, the possibility of his becoming a surgeon, deliberately undertook to perform a difficult intraabdominal operation, his second attempt during his entire period of practice, twelve years, leaving behind a large abdominal pad. The patient died. At the trial it was proven that she would probably have died in any event; just the kind of a case that demanded all that judgment and surgical skill could furnish. Just the kind of a case that any man with the "makings" of a surgeon would instinctively have avoided. Just the kind of a case that any man with a conscience or the welfare of his fellow man at heart would at least have given the advantages of an uptodate hospital which was six miles away. We come here and condemn such practices as dangerous, murderous and vicious, yet we go on the witness stand and so evade issues and modify our answers as to practically amount to perjury, lowering ourselves in the estimation of all intelligent men, bringing disgrace to our profession, trying to bring these men out of the trouble they deliberately, if not with malice aforethought, entered into. We proclaim to the public that we might have made the same mistake, that great surgeons have not infrequently left sponges behind, thus encouraging the further undertaking by unscrupulous men of work that they are incompetent to do. We are responsible for this disagreeable condition because we lend our moral and financial aid in exonerating these men. This society is defending with your money and your influence the man to whom I have just referred.

A short time ago I heard a doctor say that he was getting d—d tired of the surgeons getting his good patients' fees; that he intended to invest a hundred dollars in surgical instruments and do his own surgery. I have no doubt that this man will attempt to carry into execution his threat, and some man or woman or child's life will pay the penalty and you and I will be called upon to defend him for he is a member of his state society. It is among this class of men that we find the rebaters and fee splitters. The almighty dollar is their god. "Just so long as we continue to defend these men just so long as we continue to tolerate the low grade medical schools that infect this country, just so long will we be confronted with the question "Who Should Practice Surgery?"

Clifford J. Harris, Covington: I have enjoyed the paper very much and also the discussion, and I feel constrained to say a word or two.

There is great contention just at the present time between the medical men and surgeons. I am a little of both. I think a good surgeon is a grand thing; a good medical man is a good thing, but I believe any man who has faithfully and diligently applied himself, who is the graduate of a reputable medical school, and has served as an intern in a hospital, and has tried to make himself capable of doing a certain amount of surgery, should do it. When a family engages you as their physician, they expect not only that you possess medical skill, but they expect you to do a certain amount of minor surgery. Each case is a law unto itself. Each man knows, if he is capable of doing this work. If so, he should do it, if not, he should have the manhood to say so. He should say to his patient, I am not capable of doing this operation; I will send you to a man who can do the work skillfully. If the practitioner is capable, all well and good; he should do the work. For the general practitioner to send all surgical cases to a surgeon is quite wrong; he should qualify himself to do a certain amount of minor surgery. There are many practitioners who can do as good minor surgery as any surgeon. On the other hand, when he encounters a case of major surgery and feels that he is not capable of performing the operation as it should be done, he should then give that patient the benefit of the skill of some surgeon. In that way you will retain the respect and confidence of your patients, very often you can do the work yourself, and in cases where you feel you cannot do the work, send the patient to a man who can do it.

Charles L. Bonifield, Cincinnati: I certainly have enjoyed the paper of Dr. Vance and agree with almost everything he has said. I also enjoyed the discussion of the first speaker, although I cannot agree with everything he said. Many of the points he made were more interesting than instructive. We must not be carried away by the poetry and the brilliance of expression of the first speaker. This is a matter of common, everyday hard sense. I never ask other people to go to a greater extent in preparing themselves to do surgery than I did myself. I was engaged in the practice of medicine—that is, general practice—for ten years, and I believe with my friend from Louisville that general practice is an advantage to any man. But during all those ten years I was assisting some one in doing surgery nearly all the time. (Applause). I never opened an abdomen until I stood opposite some one who had seen and opened thousands of abdomens, and when I stood there I recognized I did not know very much about it, but still I thought I might be able to commence. We must recognize right at the start that surgery is an art as well as a science. We can watch a mechanic build his stone wall (referring to wall.) and it looks easy to us, but could we make that corner true, and those walls straight?

I remember a few years ago coming from the

hospital with a recent graduate who talked of going into surgery; we were waiting for a street car, and while we were waiting for it we saw a bill poster putting up show bills. We noticed how skillfully he took the bill, laid on the brush, and stuck it up without a crack. He did it very dexterously in two or three minutes. I said to my young friend, "Can you do that?" He replied, "No." I told him that it would take a good deal of training and practice to learn to do surgery. Somebody has made the statement that surgeons are not born, and I am quite in accord with that. While they may not be born surgeons there are men who have more dexterity than others. They make great surgeons, while others with a great amount of training do not become anywhere near as dexterous. I never can be as great as many other surgeons, nor any of you, but still practice and experience will enable us to become more dexterous. Lawson Tait achieved his reputation on account of his great manual dexterity. He operated very quickly. The point I want to make is that if these skillful men, like Howard Kelly, Crile, the Mayos, August Martin and Lawson Tait required practice to get this skill, even though many of them may have been born with a great deal of ingenuity, how much more necessary is it for the individual of average intelligence and of average dexterity to take time to prepare himself. What is the preparation that the average man needs, and how are we going to settle that question? That is the most important thing, after all, and I do not believe it is going to be settled by the American College of Surgeons. It is a step in the right direction, but it will never settle it. A great many of the men who have signed the pledge of the American College of Surgeons and will swear to it, will not live up to it simply because they have signed it. There are a great many drunkards who sign a pledge promising not to drink, and they break it the next day. We have got to have the strong arm of the law to effect these things, and what we have got to come to and what we will come to just as sure as the sun is shining outside is that a separate degree will finally be granted by the best medical colleges in the country.

John J. Moren, Louisville: In the past six years we have contested sixty-four suits for malpractice. The majority of these have been surgical cases. I am not going to give you my opinion as to who should do surgery, or who should practice medicine, but I ask you to be willing and ready and offer to have consultation in any case or every case that offers any difficulty. You will make it a great deal easier for us. How many men are afraid to call their associates next door. They say, I do not want him in this case. I will go ahead myself. Well, a little counsel is worth a whole lot. Two heads are better than one, even though one is a sheep's head, and in difficult cases you want counsel, and please be ready to accept counsel and encourage consultation.

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EDITORIAL.

AT LAST.

As most of our members will have seen from the newspapers the Attorney General has decided to file suit against Dr. J. N. McCormack personally, instead of the members, past and present, of the State Board of Health, as has long been threatened and expected, for the sum of \$18,739, which it is alleged was spent in technical violation of the health and medical laws since the Board was organized 36 years ago. This whole matter has been so thoroughly threshed out during the last two sessions of the General Assembly, and both the profession and people are so fully informed on the subject, that it seems hardly necessary to say that, acting for his associates on the Board, dead and living, and for a profession he is proud to represent, Dr. J. N. McCormack will present itemized statements and consecutively numbered vouchers, and ledgers, properly audited and certified, year by year, for each year since these laws were enacted—a record which can hardly be equalled by any other branch of the State Government. Dr. McCormack seconded the motion last winter instructing that the suit be brought and it will not be his fault if it is not tried at the next term of the court, and he and the Board and their friends, which includes nearly every reputable physician in Kentucky, confidently expect it to be shown from the accurately kept and carefully preserved records, not only that all of these affairs have been wisely and economically administered, and that the people have had the full benefit of every dollar expended but that, acting under the advice of its able lawyers and a long line of worthy auditors, every technical provision of law has been rigidly observed.

A NEW ADVERTISER.

It is with special interest we call the attention of our readers, who are the owners of this JOURNAL, to the announcement of the Frank S. Betz Company which again appears in our advertising pages. Except the excellent firm of Tafel Brothers in Louisville, who take an announcement in the Jefferson County Number, this is the only firm advertising surgical instruments in the JOURNAL at present. We are glad to carry the Betz advertisement for two reasons: In the first place, they pay the JOURNAL well for the space they use and help us to publish a better JOURNAL and, in the next place, and this is really of even more importance, they sell supplies to physicians at so much better prices than the ordinary supply houses that it is an especial pleasure to put the Kentucky doctors in touch with them. The Editor of the JOURNAL at various times has purchased several thousand dollars worth of material from the Betz firm. He has found every shipment from them entirely satisfactory. We trust the readers of the JOURNAL will purchase their supplies either from Betz or Tafel as a token of their appreciation of the assistance these firms are giving us in conducting the JOURNAL. It is well to remember that the JOURNAL guarantees the members of the Kentucky State Medical Association against any loss from dealings with its advertisers.

DIPHThERIA ANTITOXIN.

The State Board of Health is arranging for depositories in every section of the State where antitoxin can be secured in urgent cases without loss of time and at the same cost as that ordered from the Laboratory. If your society has not availed itself of this opportunity to have on hand a liberal supply of diphtheria antitoxin write to Dr. Lillian South, State Bacteriologist for details of the arrangements made with H. M. Alexander and Company, and secure a depository.

SCIENTIFIC EDITORIALS.

LEPROSY IN RATS.

While the few cases of the Bubonic plague recently discovered in Louisiana, have caused such a furor that national medical aid was asked for, little attention is paid to the spread of leprosy in this country. True, at the last meeting of the A. M. A., the subject of leprosy was thoroughly discussed, and means were taken to urge national government to establish a national leprosarium for the study and isolation of leper cases; still, possible factors in the spread of this disease are but little studied in this country. The spread of Bubonic plague has been attributed to rats as the chief carriers of the plague germ, and an anti-rat campaign has been organized in the chief ports of the East coast and Gulf of Mexico, reaching its height in New Orleans. Can the rats be double offenders? Can they also be carriers of the bacteria of leprosy?

In 1903, the Russian leprologist, Stephansky, described a disease in rats, caused by a certain bacillus which in many ways resembled the bacillus leprae. The description of the disease from a clinical and pathological standpoint tallies closely with true leprosy. Dr. Stephansky's theory and investigations gave an impetus to a great many workers whose many articles, contributed on this subject, all coincide with his views. Furthermore, it was found that the leper-like bacillus and disease is found among rats all over the world, the chief offender and carrier appearing to be *Mus norvegicus* *S. decumanus*. Two forms of this disease were observed; glandular with distinct inflammation of lymphatic glands, and musculo-dermatic, which is rarer, but the more severe form. The rodent suffering from this second form are usually found exhausted, and their movements are slow and laborous; the skin is thickened, void of hair in places and firmly adherent to the subcutaneous tissue; in the thickened areas are found knots, more elongated than in human leprosy, though at times the knots may disappear. In histological examinations, in sections stained according to Ziehl's method, one can discern a great number of acid-fast rod-shaped bacteria, distributed as in Hansen's *Bacillus Leprae*, always intracellularly, within the leucocytes and adjacent cells. The bacillus described is the mycobacterium leprae murium; it is surrounded by wax-like membrane which forms an obstacle to the digestive powers of the phagocytes; it stains more easily by Ziehl's method than Hansen's bacillus and is harder to decolorize than the latter; intracellularly, it is rather loosely distributed, not forming "cigar-packages" as does

Hansen's bacillus. At times degenerated, granular and chain-like forms are observed. When imbedded in the cells of the epidermis the parasite is sure to destroy this tissue, thus favoring the formation of ulcers. Out of 1296 rats trapped in the sewer-pipes of Paris, 65 or 5 per cent. were found to be carriers of Stephansky's bacillus, and 8 of these, or 0.6 per cent. had inflammatory processes of the skin. None of the experimenters were able to get a culture of the bacillus on artificial culture media. Experimental infection of healthy rats was very easily accomplished, although the incubation period was rather a long one, from two to four months or longer. Infection is accomplished through introduction of the virus by the hypo or intradermic route, the latter method giving a much larger percentage of takes. By rubbing the bacterial emulsion into freshly deepithelialized skin, the infection is accomplished very easily; non-damaged skin, even in young rodents without hair on the skin, does not allow the bacteria to penterate. Infection is distributed by lymphatic channels. In artificial infection the glandular form of the disease is usually seen, but the form may be obtained by mixing the inoculation bacterial with the culture of pus-forming bacteria.

Unlike bubonic plague, in which the germs are carried by fleas, neither insects, fleas, lice nor mites are carriers of the germ of this disease. White rats are as easily infected as the gray ones; mice are not so easily infected, while guinea-pigs and monkeys seem to be immune to Stephansky's bacillus.

M. L. RAVITCH.

Tuberculosis of Bronchial Lymph-Nodes and Lung Hilus.—Stoll and Heublein claim that prior to the fifteenth year, tuberculosis of the bronchial glands and lung hilus is the most common form of tuberculous disease. The early symptoms are usually indefinite and chiefly of toxic origin, while a cough is generally present, it may be entirely absent even with advanced disease of the bronchial glands. Although the orthodox signs of incipient (apical) tuberculosis are not present in these cases—in fact, the primary lesion is often in the lower lobe—there are certain physical signs which are indicative of a pathologic process at the lung root. The significant signs are a "hilus dimple" (noted anteriorly over the hilus region at the end of inspiration), dilated veins, parasternal and paravertebral dullness, and most significant of all, a well-marked whispered bronchophony in the interscapular region (d'Espine's sign). Roentgenography, and especially stereoroentgenography, is of the utmost value in these cases, as it shows the exact location and extent of the morbid process, and is the greatest stimulus to careful clinical work.

ORIGINAL ARTICLES

TRACHOMA IN EASTERN KENTUCKY.*

By J. A. STUCKY, Lexington.

I think it only fair to the members of this Association to say that I am on the program at this time not by choice but by invitation of the Chairman of the program committee, who besides inviting me, assigned me the topic as published in the program. Some years ago, my curiosity to know from whence came so many severe, many of them hopeless cases, of trachoma from the Mountains led me to take a short trip to Perry County in the Highlands of this State. Then and there I found conditions of the eyes of the natives that were appalling. After that I made semi-annual trips to Hindman in Knott County, where conditions were even much worse than in Perry county. Here I established what is known as my Mountain Clinic, which was conducted in and under the auspices of the W. C. T. U. Settlement School, whose faculty and equipment are doing a remarkable aggressive educational work, combining nearly all the elements of the manual training school work. After the second clinic I was chosen as its medical director. Until after the fourth semi-annual clinic, each one lasting three or four days, Hindman was 45 miles from the railroad and the long rough trip was made in a day and a half or two days' ride on horse or mule back and in a wagon. On the first trip I was accompanied by two nurses and a guide. Our clothing, instruments and hospital necessities being carried on a pack mule. Finding more work than three of us, with the aid of the nurse and the faculty, at the Settlement School could do, I enlarged my staff and took with me Dr. S. B. Marks, of Lexington, and four nurses. While I looked after eye, ear, nose and throat conditions, Dr. Marks attended to the conditions requiring general medical or surgical treatment. After holding the clinic, on our return to Jackson, of Breathitt county, we stopped at Hazard and saw and operated on cases there.

After the fourth clinic I made a verbal report to the American Academy of Ophthalmology and Oto-laryngology which met at Indianapolis. This report was made with the sincere and earnest desire to get helpful suggestions in treating eye conditions which baffled my hardest efforts to relieve. The following year (after this report) some one called attention to the members of the House of Delegates of the A. M. A., to my report with the result that a resolution was

passed asking the U. S. Public Health Service to send one of their experts to co-operate with the Kentucky State Board of Health in the investigation of said report.

Surgeon John McMullen was sent and after visiting five counties in the mountains, his published report (Bulletin No. 101) caused many newspaper and magazine articles to be published and I found myself not only in the spot-light of publicity but with an applause and a reputation that I not only did not seek or desire, but which I feel wholly unworthy of.

I feel that this explanation is not only due you but also is due me. After the active assistance of the Public Health Service was obtained, my interest in the people of the mountains and restless desire to help them, by helping to solve the trachoma problem which is their greatest curse and handicap, has led me to points in the mountains, not as yet aided by the Government Health Service, I opened a clinic last April at Oneida in Clay county, under the auspices of the Oneida Baptist School, which has achieved such a phenomenal growth under the guidance of that great man of the mountains, James Burns. Of more than two hundred people examined there I found trachoma in the second or third stage in 16 1-2 per cent of that number. A hospital is being built there now, and an active, aggressive war will be made as at Hindman, Hyden and Jackson, not only against trachoma, but all diseases, insanitary and unhygienic conditions.

Notwithstanding trachoma is one of the oldest known diseases, is infectious and destructive to vision, that it exists in an appalling percentage in the natives of the mountains of the Eastern part of our State. (Kentucky) that our State Board of Health appealed to the United States Bureau of Public Health two years ago, for aid to ameliorate and eradicate the disease, and one of the experts of this Bureau, with three hospitals established, three surgeons and seven trained nurses, constantly in the field fighting the disease, our knowledge of its etiology and treatment "is in a most confused state." The specific cause of trachoma has not been found. Is this a reflection on the Science and Art of Medicine as it is related to ophthalmology, or is it due to the fact that sufficient time and energy has not been given by the bacteriologist and microscopist to the study of the etiology of this most damnable of all diseases of the eye, (especially as it exists in Eastern Kentucky). It is insidious, deceptive, painful, communicable and destructive, and we neither know the specific cause or a remedy or surgical procedure that will restore to function a nominal twenty per cent. of the cases as we find them among the natives (genuine Americans, real

*Read before the Kentucky State Medical Association, Newport, September 22-25, 1914.

Anglo-Saxons) of the mountains in Kentucky, who have the disease in the second or third stage with the usual sequelae of corneal ulceration, pannus, trichiasis and entropion. Scientific research workers have isolated the specific bacilli or cocci that causes tuberculosis, syphilis, cerebro-spinal meningitis, yellow fever, typhoid fever, bubonic plague, diphtheria, pneumonia and many other diseases, no less important and destructive than trachoma, and a rational, scientific treatment has been given, which has practically robbed these diseases of the greater part of their danger and menace to life, but this cannot be said of trachoma. The most humiliating, pathetic and tragic part of this disease, unlike the others just referred to, is it does not destroy life, but if not eradicated or arrested the patient continues to live in his misery, with either impaired or destroyed vision, a burden and menace to his family and the community, and often at last to the State.

It is not my desire or purpose to burden the members of the Kentucky State Medical Society with a lengthy wordy paper on this topic—a resume of the “voluminous bibliography on the subject,” yet notwithstanding this, “the relations between the older observations and the more recent ones are not clearly defined.”

As yet I do not know the etiology of the disease and though I have visited some of the largest and the best clinics in Europe and America, in no place have I seen such large numbers of cases, such destructive and hopeless conditions in as large a percentage of those afflicted as I have in the mountains of the Eastern part of our own State. To me the treatment and teaching of our best clinicians and the writers of our best text books, indicate “that our knowledge of trachoma lacks exactness.”

If any one thinks these statements are exaggerated, or that I have made incorrect diagnosis, they are cordially invited and urgently requested to visit one of the hospitals established by the U. S. Bureau of Public Health for the exclusive treatment of trachoma at Jackson, in Breathitt county, Hindman in Knott county or Hyden in Leslie county.

I have nothing new to add to the paper I read in the Section of Ophthalmology of the American Medical Association in 1913, except since then I have seen 198 new cases of trachoma not reported by me at that meeting, the greater number of these I saw only once or twice, and since I hold only two clinics a year in the mountains, I could do little for them. They cannot come to me nor can I leave my family and my work and go to them. If they ever get relief, it must be carried to them. Just here let me digress long enough

to say that these people, are a peculiar, wonderful people, different from the immigrant sweepings of Europe which annually flock to our shores, and which cost us millions of dollars to prevent their bringing trachoma or other communicable destructive diseases to our people. These people are not only genuine Americans but they are Kentuckians, and though the majority of them are on the border line of poverty, they are worth more than their votes; and they have few and short term schools, no roads and meager agricultural facilities, they are our people, and have never had from us and our State Government “a fair chance and a square deal.” If they had some of the counties wherein most of the disease of trachoma had been found would not be pauper counties, without even an almshouse, and where there is one school now, there would be ten, and instead of innocence and ignorance, knowledge would abound.

I mention this, first, because if a radical change in the existing conditions is brought about, it must be through the decision, determination and energy of the medical profession of Kentucky, and, second, to emphasize the fact, that in my judgment the disease is slowly and surely spreading throughout Central Kentucky. In the past two years I have seen in my clinical work in Lexington from five to ten cases of trachoma with corneal involvement where I saw one case five years ago. These cases come from the counties of Fayette, Bourbon, Scott, Woodford, Jessamine, Clark and Madison. This indicates to me that the disease is either on the increase or I am getting more than my share of the cases.

Several days ago Surgeon John McMullen of the U. S. Bureau of Public Health who has charge of the three trachoma hospitals in this State, gave me a synopsis of his report, made on September 1, 1914, which briefly abstracted is, of one thousand cases coming for treatment, of these the

Number of cases with impaired vision from trachoma, 50.3 per cent.

Number of cases blind from trachoma, 5 per cent.

Number of cases corneal opacity from trachoma, 24.5 per cent.

Number of cases corneal ulcer from trachoma, 16 per cent.

Number of cases of pannus, 29 per cent.

Number of cases photophobia, 19.3 per cent.

Number of cases of entropion, 13.9 per cent.

Number of cases trichiasis, 10.8 per cent.

Number of cases approximate cures of trachoma, 21 per cent.

Cases requiring secondary operation within six months, 15 per cent.

It is to be borne in mind that neither one of these hospitals has been in existence as

long as one year. The one at Hindman has been receiving and treating patients for 300 days, that at Hyden 280 days, and that at Jackson 99 days, making 679 days for the three hospitals. Another important fact is, that only those come to the Government hospital or to either of my semi-annual clinics, who are not in such pain or whose vision is so impaired that they cannot work or do usual domestic duties. The dread, fear and superstition regarding hospitals and strange doctors and nurses, is with the greatest difficulty overcome to the extent that these "gentle folk" will consent to leave their home and loved ones and submit to treatment. The attendance at the out-door or dispensary of the Government hospitals has been 6687—total number of treatments given 7864, average daily attendance 37.

It is gratifying to know that Surgeon McMullen has had added to his corps of workers, Assistant Surgeon J. G. Wilson of the U. S. Public Health Service, who has been directed to proceed at once to the counties of Jackson, Laurel, Clay, Knox and Whitley and make a survey of the prevalence of trachoma in these counties, with instructions to examine a sufficient number of people in each county to determine the percentage of them that have trachoma, especial attention being given to examination of the school children, in order to obtain the general average of infection throughout the county. In addition to these instructions, accurate records of these surveys are to be kept, and lectures are to be given in the schools and other public places, and in every way possible, further the educational (prevention) side of the work now being done in Eastern Kentucky. I regard the educational feature as most important, and it is to be regretted that so little of it has been done. In every school house, court house or public building where an audience of the natives can be gathered, lectures illustrated by pictures, charts and stereopticon lantern views should be given wherever and whenever possible. This scourge of the mountains is to be wiped out by the combined unified work of the medical man, trained nurse and school teacher.

The trachoma condition in Eastern Kentucky as described by Surgeon McMullen and myself has been confirmed by Dr. Herbert Harlan, of Baltimore, and Dr. F. Park Lewis, of Buffalo, N. Y., both of them, at different times spent a week at the Government Hospitals assisting and advising in the treatment. Their reports were made to Surgeon General Blue, of the U. S. Public Health Service.

The effects of trachoma are felt not only by the individual but also by the community in which he lives. The invalidism caused by the disease is liable to impose financial burdens

on that community, and the resulting blindness may render its victims public charges.

Finally, school children affected by the disease have their studies interfered with, their education will be more expensive, their power to earn a living will be permanently lessened, and through no fault of theirs they may become permanent charges on the State.

As the wide prevalence of infectious and contagious diseases among the people, notably trachoma and tuberculosis, depends largely upon the ignorance and indigence of the people, and absence of central and local organization in the administration of sanitary matters among them, the following recommendations are made:

(1). The economic status of the people should be improved. Improvement in such status is necessarily directed toward causing the people to become self-supporting so that at all times their food supply will be regular and sufficient. The people, therefore, should have closer and more practical supervision and encouragement in the tilling of their land and the raising of crops. In localities where agriculture is not profitable, they should receive similar encouragement and supervision in other occupations suitable to their needs and environment.

(2). Efforts should be made in greater degree to educate the people in personal and domestic hygiene and the means necessary to guard against contagious and infectious diseases.

(3). In combatting diseases, educational measures have been found to be most important and cannot be neglected. Such education should be more widely attempted by means of home-instruction, lectures, demonstrations, moving picture shows, and by any other means found to be effective.

(4). Greater efforts should be made toward the improvement of the houses of the people. Studies should be undertaken in the design of the cheapest and most sanitary forms of dwellings for the various climatic conditions in localities, and the people encouraged and aided, so far as practicable in the construction of such habitations. All dwellings built in the future should be in conformity with an improved design.

(5). Insofar as practicable each house should be restricted to the use of but one family, thus avoiding the overcrowding now so common.

(6). Hospital facilities should be provided in localities for the reception of people suffering from severe trachoma and in need of hospital treatment. Sufficient authority should be granted to require them to undergo such treatment when, from the condition of their eyes, they are a menace to the public health. Hospitals for this purpose need

not be expensive, and most trachoma cases could receive outpatient treatment.

(7). In each infected sanitary district a dispensary or office, portable or permanent in character, should be provided for the treatment of cases of trachoma not requiring hospital care, and such dispensaries should be in charge of those qualified to administer treatment for diseases of the eye.

(8). A sufficient number of field nurses should be provided to administer, under the direction of the physician, home treatment and instruction to those who cannot be sent to the hospital or attend the dispensary.

(9). No children suffering from trachoma should be admitted to uninfected schools.

(10). Separate schools, where practicable, should be established for trachomatous children.

(11). All boarding schools wherein trachomatous pupils are admitted should be provided with adequate facilities for the care and treatment of trachoma, such facilities to include the permanent services of a nurse trained in the care and treatment of diseases of the eye.

The disease is essentially a chronic one, with years, as a rule, intervening between the time of its incipency and the terminal stage, depending upon the management of the case and whether the most appropriate treatment is administered or not.

In the beginning the diagnosis is difficult, often time alone revealing positively whether it be a true trachoma or not. The terrible inconvenience that this disease imposes upon its victims as well as the suffering can hardly be conceived by those who are not actively engaged in its treatment. The patients may be afflicted for months, indeed, sometimes they wait months before consulting a physician, often until their vision is impaired and painful photophobia and lachrymation interferes with their work. In my work in the mountains I never make a positive diagnosis until I meet with the second stage. In this stage the palpebral conjunctiva is hypertrophied, studded with granules or has a raspberry appearance, indicating progressive deduction of the membrane, causing a rough uneven surface and the tarsal cartilage is noticeably thickened.

In this stage we have the beginning of pannus phlyctenular-keratitis and ulceration of the cornea. Gradually this passes into the third stage, in which the connective tissue has replaced the conjunctiva of the eyelids and the tarsal cartilage is in an atrophic condition, the result being that the lid is no longer held in its proper position, the lashes turning under and constantly irritating the already inflamed cornea, which mechanical action prevents the pannus from clearing up. Exuda-

tion into the cornea occurs and without very active and continuous treatment the patient must go the rest of his days with his vision partially or totally destroyed, a burden to himself and the community.

The prognosis of the disease in any stage depends on the patient himself and the facilities for giving the treatment which of necessity must be long, tiresome and painful. All agree that trachoma is a communicable, destructive disease, and yet we have all seen cases in which there has been an infection of one eye for several months or years and no precautions have been taken to avoid infection of the other eye, and yet the other eye has not yet been involved. Such cases as these make you think that there must be some condition of the conjunctiva in one eye that creates an immunity from the disease.

In photophobia, from whatever cause, atropia is used and mydriasis maintained. I prefer grattage to other operations because of less traumatism and reaction and it is usually just as effectual. In blepharospasm or blepharo-synechia, a free canthotomy or cantho-plasty operation is done, being careful to sever the tendon of the orbicularis. The edges of both lids are then kept wide apart by sutures fastened above and below by adhesive or collodion. Iodoform powder is packed into the cut surfaces. If trichiasis and entropion exists they are corrected at the time of the canthotomy. From the time the patient is admitted to the hospital active and energetic local treatment is kept up every two hours night and day until marked improvement occurs, then every four hours. My most frequent and routine treatment used is dionin, 1 to 3 per cent., atropia, same strength, and 25 per cent. argyrol (freshly prepared). These three remedies are used every two hours at intervals of two or three minutes between each one. Two drops each of dionin and atropia are used at intervals of three minutes after which while the upper lid is held away from the globe the parts are literally flooded with the 25 per cent. argyrol. As soon as the pupil is completely dilated the atropia is used less frequently but dionin and argyrol are continued every two or three hours. Little or no irrigation is used, but instead the eyelids are separated and the tenacious, stringy mucous wiped off with a cotton swab before each treatment. Dionin has proved a most valuable synergistic adjunct on account of its analgesic and lymphagogue action. When the dionin begins to lose its effect and no longer causes redness and edema of the ocular conjunctiva, it is discontinued for several days, and a sub-conjunctival injection of saline solution is given. Two or three days afterward we can usually get the dionin reaction again and begin to use as be-

fore. If there is a dense pannus or sluggish ulceration or phlyctenules of the cornea, very hot application of equal parts normal saline and boracic acid solution are made for thirty minutes in every two or three hours until desired results are in evidence. Injury is often done by continuing hot application too long, resulting in a lowering of the vitality of the parts. If improvement is not noticed in a few hours after discontinuing the use of the dionin and using the moist heat. I resort to application of 10 per cent trichloro-acetic acid or equal parts of iodoform and calomel to the ulcerated surface. No dressing or bandage is ever used, as these retain the secretions and soon form a septic poultice. The eyes are shaded by green celluloid shades and kept dry and clean with small mops of sterile cotton or gauze. Patients are not kept in bed, except for 24 hours after operation unless there are special reasons for doing so. Careful attention is given to the systemic condition. Inasmuch as many of my cases have had hook worm, the test for this is made upon admission and if positive, treatment is given at once.

DISCUSSION:

T. F. Wickliffe, Jackson: In discussing this paper I wish to say, that I have not heard a paper in years which I have enjoyed any more than it, and anything I may say must not be considered in the nature of a criticism in any way, because we all know that Dr. Stucky's work is as well known in the mountains of Kentucky as any other man up there. When he said he won the love of those people he told you the truth. I wish to say regarding our hospital treatment in the mountains that the operative and other treatment is absolutely free. The United States Public Health Service does not charge anything for what they do for these people. But they must after operation, stay with us long enough for us to get them partially well, and this means from three days a week. Some of the worst cases are kept there for over a month. We do not believe in operating on them and allowing them to get out in the sunlight. If we do, they come back with iritis or some other complication. The eyes give them trouble unless they stay out of the sunlight. They are instructed that when they go home they must stay out of the sunlight most of the time. The youngest case of entropion I have seen has been in a thirteen year old girl. I do not know how old would be the oldest. The cornea clears up better in cases of entropion than in cases of trachoma without entropion. I have seen patients with entropion who could not see my fingers more than six inches. These cases are now taking care of themselves without asking the assistance of anybody and are making a living for themselves and families. In saying this disease causes poverty

Dr. Stucky said many truthful things for I know of no people needing more help as they absolutely can not work for months or years at a time.

The youngest case of trachoma I have seen was in a fifteen-months-old baby. I have seen lots of babies all the time in the mother's arms, yet not have this disease, when the mother had a very active case of trachoma. Why, I do not know. Dr. Stucky, I feel sure, will have seen the same thing. This fifteen-months-old child had a marked case of trachoma. The oldest case was sixty-eight years of age. As a rule, babies seem to escape the disease in some way. The mother will have it so bad that she cannot see the child, and with the tears all falling down from the photophobia, yet the baby does not have it. The longest case was forty-five years, the patient being now forty-eight years of age, and while she is rid of the disease she has got entropion, trichiasis, and corneal opacity and pannus, and is suffering from almost total loss of sight. She could not see my fingers with one eye, and with the other just a foot and a half. She refused to be operated, saying that if her eyelids were twisted, that God did it, and it was God's will for her to go blind, and that she would just have to submit to going blind. I never did get to operate on that woman. The cornea seemed in her case, and in a number of other cases to get so sclerosed, that they do not suffer like you or I. If we get the least particle of sand in our eyes it makes us wild. I am more sensitive than most people in that regard. I have seen a number of cases that have not complained of pain from this entropion, with the eye-lash right in on the eye-ball. Unless we can treat all cases in the family, the cases we do treat will probably get reinfected. I have had two cases that did. One case was a boy whose father married a second time, and his wife refused to let the boy stay in the house and turned him loose in the mountains. The boy was in the most pitiful condition you ever saw. He told me he had never had a bath all over but once before in his life. We got him well, and sent him home. The boy got infected again, came back, and got cured a second time. That has happened in a number of cases in our experience in the mountain hospitals, and unless we get hold of all cases in the family it is wasting time to treat them because they get reinfected. We are trying to save the sight and the people. It is only trachoma which is infectious we are trying to handle. After it reaches the cicatricial stage it is not infectious. I believe this disease may lie dormant in a case for years and then flare up again. From the time they are little children, they may have the disease, and when they do some work that gets dust in their eyes, it will provoke this acute flaring-up of the disease that brings them in. Nine times out of ten if you ask them how they got it, they will say they got it from gathering fodder. They believe that causes them to have sore eyes. If they do not tell you

that, they will say they got it from the measles which they had three or twenty years ago, and they say their eyes have not been well since. It is hard to teach them that the disease is caused by a germ and that they infect one another. It is hard to teach them that they do not contract it from having had the measles or from gathering fodder. They do not realize how they got it unless we teach them that the most ordinary way of getting it from the common towel. If you went through the mountains and night overtook you, they would take you into the house. They do not ask whether you have the disease. You are perfectly welcome to share the house with them, notwithstanding the fact that you may have the disease and they may not. The next morning they will give you a clean towel. If you have the disease and wipe on that towel, the members of the family, when they wash, will wipe on the same towel, and so the disease is spread in that way. If you ask them why or how they got the disease, they will tell you they do not know, but we know that they got it from the towel that strangers use in traveling around in the mountains. It is that more than any other one thing. These people are so kind that they will give Dr. McMullin, myself, and the head nurse beds while they will sleep in the kitchen on the floor. There are mighty few places outside of the mountains, where people will sleep on the floor and give their beds to strangers.

Isaac Lederman, Louisville: I want to pay my tribute to Dr. Stucky personally and to his work. I think the general profession is not in a position to appreciate what Dr. Stucky has done for the mountain people of Kentucky as is the specialist who comes in contact with this disease. In Louisville we do not see trachoma as Dr. Stucky does. We see real trachoma; we see a few cases from the mountains, but we do not see the numbers of them. And yet we see a great many more than we ought to. In his remarks he stated that either trachoma was on the increase in central Kentucky, or he was getting more than his share of the cases. He is getting more than his share because he is becoming well known throughout Kentucky, and from a selfish standpoint he is means. and we know its ravages. We know the difficulty which attends its cure, and so far as welcome to them. We know what the disease Dr. Stucky's remarks in that connection are concerned, there is no reason for discussion. The movement for the eradication of trachoma, I believe, must be carried farther than the treatment. I firmly believe that the social work which should follow up the treatment is more important, if I may be permitted to say so, than the treatment itself.

Dr. Wickliffe brought up the question of the use of the common towel. The wash basin, the common soap and common towel, sleeping in the same bed, as all these children do, piled in to-

gether, are the causes of the propagation of trachoma. I do not believe it is carried by children being in the vicinity of one another. I have taken the stand personally that the schoolhouse, especially the modern city school, with its frequent inspection, is not the source of danger that the home is, and that the constant association of children in their play may be. So I want to bring out that one point, giving Dr. Stucky full credit for all work he has done. I believe the movement must not stop there, and I think Dr. Stucky believes that trachoma is going to be controlled through the district nurses going to these homes and following up the treatment. The same principle should apply to the management of the disease in the city. Instead of merely prohibiting these children from attending school, which is not sufficient, efforts at reform must be carried to their homes, and in that way we will sooner or later eradicate the disease.

Arthur T. McCormack, Bowling Green: The trachoma situation, as revealed by Dr. Stucky's labor and by the follow-up work stimulated by the United States Public Health Service in the mountains of Kentucky, is one of the most serious health problems with which we have to contend. As has been indicated, the problem is a much larger one than the mere treatment of the disease. It is a problem involving whole communities that live in the mountains, that live in the Blue Grass region, and it not only interests the State of Kentucky but the nation. This government has been spending large sums of money in excluding suspected or suspicious cases of trachoma from entrance to our ports. More cases of trachoma have been actually operated upon in Kentucky in the past year than have been excluded from all ports of the United States in any one of the last twenty-five years. This gives you an indication of the tremendous problem involved. There is ample authority in the statutes for the eradication of the disease in the existing boards of health to-day. Any county board of health to-day has the authority in cases of any communicable disease to bring the infected population under prompt and effective treatment. The board of health has the authority to employ such experts as are necessary to carry on this treatment. This power has been upheld by the Court of Appeals and by courts everywhere, but it is necessary to present such reports as these before the people in order to have public sentiment behind us to get the consent of the Fiscal Court to make these appropriations in the various counties. They can be gotten with average magistrates provided the purposes of the work are made plain, and then the work is done well and economically.

So far as trachoma is concerned, up to the time Dr. Stucky made some of these investigations and reports, we did not know very much about its existence in the State. The average magistrate, who naturally does not immediately hand

out all the money in the county as soon as he is informed that trachoma is prevalent, knowing as little or less about the character and danger of the disease as we doctors did a year ago, must be educated as you and I were educated. The reason for the exclusion of these cases from school is because we want the people to appreciate the the necessity for treatment. They understand when excluded from school, because the desire for education is very great. There is some danger of contagion in any contact with these cases. Personally, I would not want a child of mine to sit in the same seat with a child who had the disease in mild form, however well educated or trained may be the child, in order to attempt to prevent the spread of the disease from the other child. I do not believe these cases ought to attend school. Not only on account of the danger of spreading the disease, but because I do not believe a child with an acute, subacute or chronic trachoma has its eyes in such a condition that it can read printed matter in the average school books or understand it even if it did read it. I do not think there can be the slightest objection to excluding these children from schools whose eyes are suspicious of being trachomatous. It is said that six or seven weeks are necessary to cure the disease confounded with trachoma, and such cure of acute eye diseases is of the utmost importance to the child. With the average education, if a child should lose six or eight weeks, it does not lose much. I doubt if such a brief absence could affect seriously the life of any child with sore eyes that studies in the common or high school, and even if the child should lose a whole year and get well from disease of the eyes, it would be better off than if it attended school without knowing what was the matter with the eyes, even if it could be taken for granted that it did not endanger the eyes of other pupils.

J. A. Stucky, (Closing): We have something encouraging from Bowling Green. Dr. McMullin sent me a yellow circular saying "Trachoma cured by Dr. Munyon's famous Mexican Eye Treatment." This medicine is made in that city. I immediately wired him to send me some of the medicine, and I have a sample of it in my pocket. I dare say that it contains some cocain. The claim is made that trachoma can be cured with these eye-drops.

Dr. Wickliffe spoke about trachoma in babies. I do not think I have ever seen a case of trachoma in a baby under two years old. If I have, I did not recognize it. The majority of these people think that trachoma is a dispensation of Providence. I am glad Dr. Wickliffe brought that point out. They are not irreligious.

I think the cases of acute exacerbations in the chronic cases ought to be put in a hospital and treated as actively as we would treat gonorrhoeal ophthalmia. If you are going to exclude one, exclude the other. When I have a case that is

treated every two to four hours, night and day, as I brought out in the latter part of my paper, "there is something doing," and the results are soon apparent.

Dr. Lederman emphasized one point I brought out in my paper, and I think you will agree with me, and that is the three-fold importance of the medical man, trained nurse, and school teacher in the eradication of this disease. They should combine and work as one person.

ALCOHOL AND THE PUBLIC HEALTH.*

By J. N. HURTY, Indianapolis, Ind.

(State Health Commissioner of Indiana.)

This paper shall be brief; extra brief. I am determined that that merit shall be accredited. I shall not take up the physiological action of alcohol, for that would be a work of supererogation in this presence. I shall not consider the dietetics of alcohol, for it is not a food in any sense, and has no true dietetic standing. I shall not consider the stimulant action of alcohol, for it is not a stimulant, it is only a sedative. I shall not consider the therapeutics of alcohol, for it has none. I shall not consider the mechanical or industrial uses of alcohol, for they do not here concern us.

BUSINESS MEN.

The most important business before the business men to-day is the business of the public health, and further, if the business men do not very soon grasp this truth and act upon it, then our business men are not real business men, but business children. This is said of business men because they are in the saddle, and they virtually govern and run things; and they are doing a poor job. This is attested by our over-high taxes, the failure of municipal government, the rottenness of legislatures, the non-control of venery, the omnipresence and awful destruction of syphilis, the prevalence of preventable diseases, the prevalence and non-reduction of crime, the prevalence and non-reduction of insanity, poverty and feeble-mindedness, the increase of defectiveness and delinquency, and the increasing consumption of alcohol as a beverage with its endless chain of abominations. All of these evils, and more, are upon us, not because we cannot remove and prevent them, but because we will not. The business men who are our leaders and governors, are continually trying to improve and increase business, succeeding only partially, because they do not recognize that business, like all other fundamentally good things of human life, depend upon the moral and intellectual health

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of individuals. A community, a state, an empire depends absolutely upon its healthy men and women, for its morals, strength and character. The sick, the diseased, the drug habitues, the alcoholics, and the other defectives, have no part in the prosperity and happiness of a nation. They are a source of expense and weakness. They are a burden. They must be supported, and practically, they are useless, deleterious and unnecessary.

Assuming these statements to be true, then it follows—if a nation desires success, and is to be successful, its business men must look to it that government is righteous; and to be righteous, it must closely follow the laws, so far as they are known of national well-being. After governmental organization, the first absolutely necessary consideration is the cause of the public health; for without health mental and physical efficiency with honesty cannot exist. "The care of the public health is the first duty of the Statesman," said the eminently practical Disraeli.

HEALTH PARAMOUNT.

The public health is paramount. Do little or nothing to advance it, and the nation fails. The wonderful, well demonstrated physical and mental strength and efficiency of the Germans, rests upon health. Of course, that Nation has not removed all of the obstructions to health and efficiency, but it has removed many, perhaps most of the prominent ones. Among the huge obstructions to health and efficiency, yes, to life, liberty and the pursuit of happiness, is alcohol. Because of its wide use, it has become the most awful of all the drugs or dopes which have fastened upon mankind. There is no health in alcohol. On the contrary, it is an agent of physical and moral ill health.

Where squalor, immorality, bestiality and poverty exist, there alcohol and other drugs have sway. Insanity and crime trail after alcohol, and, in its wake come ill health and disease. A high authority says, 25 per cent. of insanity is due to syphilis; 10 per cent. is due to accident; 40 per cent. is hereditary, and 25 per cent. is due to alcohol. Whether or not these figures are accurate does not here greatly matter, for certain it is, alcohol is potent in the causation of insanity. It is also potent in the causation of crime, in the causation of poverty and of feeble-mindedness. Alcoholism brings sickness, and sickness induces alcoholism. Farmers are great buyers of patent medicines. Farmers who take these quack remedies generally have dyspepsia first. The dyspepsia comes from bad food, bad cooking, and rotten teeth preventing proper mastication. When dyspepsia accepts the cordial invitation extended to it, and arrives with both feet, the victim rushes to patent medicines

and finds fatuous relief in the alcohol they contain. Then diseases appear, for on top of the dyspepsia climbs alcoholism, and on it rides many kinds of disease.

Alcohol is clearly opposed to the public health, for it hurts any animal organization into which it is taken. It is not a food, not firstly, not secondly, not thirdly. It is no degree and in no manner aids digestion. It in no degree furthers the good of the body. On the contrary, as said, it hurts. It always hurts.

Its use as a beverage not only opposes personal health, but also the public physical and moral health, and also the public economic health. Every saloon is a public dope shop, not second in evil to the opium joint. Alcohol is truly a dope. For every dollar of revenue derived from alcoholic beverages two dollars of public cost for crime, insanity and delinquency is endured.

DUTY OF MEDICAL SCIENCE.

Now, what is the duty and the work of medical science in regard to alcohol? More than 260 years ago the great philosopher, Descart, said, "If ever the human race is raised to its highest practicable level, intellectually, morally and physically, the science of medicine will perform the service." Descart was not a physician, and scholars agree he was the most original mind of this latter age, and that he more than any other thinker has moulded and directed modern scientific and speculative thought. Accepting this dictum, I ask again—what is the duty and work of medical science in regard to alcohol? From our premise, if it is accepted, that alcohol should be absolutely condemned as a beverage, and used sparingly, even reluctantly as a medicine, it is plain that the doctor, as the representative of medical science, has a fearful duty to perform.

Let the doctor then be up and doing. Let every doctor lift where he stands. Let him not dare to shirk his duty. If alcohol is not killed by the science of medicine it will continue its destructive course, for there is no other Hereules to dispatch it.

BUSINESS OPPOSES ALCOHOL.

After repeated appeals from the medical and surgical staff of a great manufacturing company, the controlling powers posted this notice:

"Workmen frequenting drinking places coming to or going from work, will be replaced by non-drinking men as rapidly as possible." This notice posted in the American Car and Foundry Company's plant at Berwick, Pa., has resulted in a marked decrease in accidents among 5000 men employed there. The actual decrease in accidents being

34 per cent. There has also been a marked decrease in sickness and disease among the men and their families, and the saving banks deposits have increased \$80,000 in one year.

After considering the teachings of medicine in regard to alcohol, and doubtless considering their own observations, the high military authorities of all the great nations now at war have forbidden the drinking of alcoholic liquors by their soldiers, declaring this is done in the interests of health and efficiency.

It has been suggested by the editor of a great magazine that, possibly the now raging European war is, in some degree, a war against intemperance. "After all," he argues, "our development is directed by a force or forces not ultimately under our control and higher and away from our desires and efforts." How wonderful, how passing strange it would be, if the perspective of time would disclose that a war has resulted in making man more obedient to the laws of his well being. Of bringing him into closer harmony with his environment.

As a thorn in the flesh deprives one of peace and happiness, and unless removed, will bring death, so will the thorn called alcohol which now destroys so much flesh, soul, peace and happiness among mankind, bring more decay and final death unless it is removed.

Richard Harding Davis in a very recent newspaper article commenting upon the troops of the allies, compares the physical condition of the Turcos with that of the whites. He says they are magnificent specimens of physical manhood; their bodies seem to be reinforced with the finest steel. They do not get sick, their endurance is twice that of the Europeans, they have not poisoned their body cells with meat and alcohol.

AN INDICTMENT.

My life experiences have forced upon me the convictions I have expressed. Alcohol is truly a greater enemy to mankind than any other drug, and we suffer incalculably from its poison, not because we cannot get from under it, but because we will not. However, I would be a rank pessimist and unworthy, if I did not believe sufficiently in mankind to strongly hope that the time is not far distant when we will know the unreason of alcohol and then put it away.

In conclusion permit me to quote a remarkable indictment against the alcoholic traffic uttered by ex-governor Frank Hanly, of Indiana. He said:

"I bear no malice toward those engaged in the business, but I hate the traffic. I hate its every phase. I hate it for its intolerance. I hate it for its arrogance. I hate it for its hy-

pocrisy. I hate it for its cant and craft and falst pretenses. I hate it for its commercialism. I hate it for its greed and avarice. I hate it for its sordid love of gain at any price. I hate it for its domination in politics. I hate it for its corrupting influence in civic affairs. I hate it for its incessant efforts to debauch the suffrage of the country; for the cowards it makes of public men. I hate it for its utter disregard of law. I hate it for its ruthless trampling of the solemn compacts of State constitutions. I hate it for the load it straps to labor's back; for the palsied hands it gives to toil; for its wounds to genius; for the tragedies of its might-have beens. I hate it for the human wrecks it has caused. I hate it for the almshouses it peoples; for the prisons it fills; for the insanity it begets; for its countless graves in potter's fields. I hate it for the mental ruin it imposes upon its victims; for its spiritual blight; for its moral degradation. I hate it for the crimes it has committed. I hate it for the homes it has destroyed. I hate it for the hearts it has broken. I hate it for the malice it has planted in the hearts of men—for its poison, for its bitterness—for the dead sea fruit with which it starves their souls.

I hate it for the grief it causes womanhood—the scalding tears, the hopes deferred, the strangled aspirations, its burden of want and care.

I hate it for its heartless cruelty to the aged, the infirm and the helpless, for the shadow it throws upon the lives of children, for its monstrous injustice to blameless little ones.

I hate it as virtue hates vice, as truth hates error, as righteousness hates sin, as justice hates wrong, as liberty hates tyranny, as freedom hates oppression."

DISCUSSION.

Virgil E. Simpson, Louisville: If I were an anti-prohibitionist, I should be afraid to advance my views in defense of alcohol after the eloquent diatribe to which we have just listened from the State of Indiana. I am somewhat at a disadvantage in discussing the paper of the essayist who has carefully prepared his thoughts and has clothed them in pleasing language and delivered them in his usual clear and incisive style. His invective against alcohol with reference to disease and crime reminds me of an Iowa farmer who bought more land to raise more corn, to feed more hogs, to buy more land to raise more corn, etc., in that disease produces more desire for alcohol, and alcohol produces more disease. I take it, that in a body of this sort, composed of scientific men, we ought to be disposed to approach a subject of this kind with our minds stripped of prejudice that naturally and inherently obtains with reference to scientific and social questions so closely interwoven, and yet it

is difficult indeed for a doctor, trained as he is, or ought to be, to think along scientific lines, to strip himself of subtleties and addenda that are unnecessary impedimenta, as it were; it is difficult for us to rid our minds of the prejudice inborn on account of the tremendous influence that alcohol unquestionably has had upon our civilization. Its abuse as a beverage is a question that needs no emphasis or elaboration. We all heartily agree with Dr. Hurty or any other man who says that alcohol has been a curse to many, many people. It has caused poverty and sickness, and it will continue to cause these so long as it is indulged in to the extent it has been heretofore. But to go to the extent of saying that there is no virtue in it because of its abuse, and because it produces crime and poverty, is going a little farther than I would care to follow. We agree that opium, when used to excess, is followed by a wave of misfortune, the like of which can be exceeded by the abuse of few other agents, but that does not deter clear-thinking physicians, men who are engaged in the endeavor to relieve suffering humanity, from using this agent within its proper limitations and restrictions. Alcohol as a drug, in my humble judgment, has a place in therapeutics. Alcohol as a beverage, used as it is to excess, and leading as it does to excesses of all kinds, is an entirely different question. Alcohol has its place as a therapeutic agent, in my judgment, and that fact is as undisputed as the fact that it is a curse to mankind when abused as a beverage. Alcohol within reasonable limitations, in the quantity prescribed as carefully as you would prescribe drugs of any sort, and that have a potentiality for harm, is not only a therapeutic agent so far as its influence upon the various systems or organs of the body is concerned, but likewise it has its place as a food. The objection to the use of alcohol as a food that might be urged and urged properly, is that in those cases where the alcohol could be used as a food, we are so frequently confronted with conditions with reference to the nervous system that patients become prone and indeed do continue its use not as a food, but as a beverage even as you or I may produce an opium or cocaine habitue in consequence of the therapeutic use of agents, provided our patients do not use them judiciously.

The work of Dr. Hurty as Secretary of the State Board of Health of Indiana commands our respect. We are always glad to have him present in Kentucky. We hope he will come often. I have enjoyed the acquaintanceship of the doctor for some time, and I hope to see him on Kentucky soil as often as he sees fit to come, and I hope the work he has inaugurated on these lines will continue to grow. I am not as optimistic, however, as he with reference to the place that medical men will have in working out eventually the solution of the alcohol problem as a a menace to human welfare. In those states

where alcohol manufacture is illegal, I think it will be found on investigation that the medical profession there have not been more active in securing the elimination of this agent, its manufacture and sale as a beverage than will be found to have obtained in other states where such legislation has not obtained.

W. W. Anderson, Newport: I want to state briefly my own position in reference to this much controverted question, and then make another remark.

I heartily agree with the position taken by Dr. Hurty. In the first place, that alcohol is not a food has been clearly proven by the fact that when you get a man physiologically balanced, as careful physiologists have done, and he has gotten the exact amount of food necessary to maintain his balance, he is able to live his life at his work, and neither gain nor lose weight. If alcohol were a food, you should be able to withdraw a portion of the food he is given and substitute its place with alcohol. It cannot be done and never has been done. The man will invariably lose weight or strength or endurance. That it has a place as a drug, I firmly believe. I quite heartily agree with Dr. Simpson. I am glad he mentioned it in the class with opium. He put it exactly where it belongs, and we do not allow people to go to the drug store or any other place and buy opium ad libitum. The time is at hand when alcohol must be put under exactly the same restraint of law that applies to other narcotics, belonging to the same class as opium, chloral, chloroform, and drugs of that type. When we want a mild narcotic, alcohol may be in some instances properly used, but we use narcotics with caution. Our law forbids the refilling of a prescription for narcotics.

The effect of alcohol on working efficiency has been well proven. Time does not permit a full statement of the matter. Suffice it to say that the man who drinks three glasses of wine a day, an amount equivalent to two-thirds of an American glass of beer with each meal, he cuts down his producing power ten per cent and increases his liability to accident nearly twenty per cent.

Moderate drinking shortens life. The Scepter Life Assurance of England says that the abstainer has two chances of dying where the moderate drinker has three. These figures are the result of 28 years of careful observation of the death rate among the thousands of its policy holders.

There are many forces at work to discover the facts on the alcohol question and to acquaint the people with them, but I regret to say that our own profession is not doing its fair share in this work. As a moral and religious problem it has been bitterly discussed ever since Noah planted a vineyard and drank of the wine. The question is primarily a medical and economic one and only secondarily a matter of morals and religion.

Oh, doctors of Kentucky! Oh, physicians of

the world! When did you ever before hesitate in the face of truth? When in the long history of medicine did you ever falter or fail your fellow man in the hour of need? It was not in your own interest that you conquered smallpox and diphtheria and malaria and hookworm and yellow fever and beri beri and bubonic plague. From the days of Hippocrates you have worn worthily the glory of untarnished altruism. Will you now surrender that crown to another?

The alcohol question is agitating the public mind. Science, religion, sociology, economics, politics are all bending their energies to its solution and driving by converging lines to the point of verity. The people will know the truth for there are few things hidden from him who diligently applies himself to the search. When that truth is laid bare it will prove that the alcohol problem as always been primarily a medical question. Will that chapter of the world's history also show that medicine has done her duty? Is the Moses that shall call the people from the bondage of strong drink among us? Is the Joshua that shall lead them into the land of sobriety and efficiency in our profession? He ought to be.

Personally, I believe with Dr. Hurty that alcohol is the scourge of the modern world; that it is not a stimulant, not a food, not a safe source of diversion and only in the most limited way as a narcotic is it useful as a medicine. I do not ask you to accept my belief. What I do ask of you, as members of the noblest of all professions, as trusted custodians of the health and welfare of the people is that you will earnestly and honestly study this question and not flinch when you find the facts. It is your business to know the truth and it is the people's right that you tell it.

W. E. Senour, Bellevue: I feel this Association is to be congratulated on having with us a man who is great enough, good enough, and grand enough to come and deliver to us such an important message, and one so closely related to the work of every physician in the State. To my mind there is no greater question or more important one that could come before the Association. There is no question of greater magnitude than the alcohol problem. There is none which is so closely associated with the work of the physician, and it is through him and our profession that our reforms must come. It is the duty in my opinion of every physician not only of this state but of the world to lend his assistance to study this question at the bar of scientific analysis, to cast aside the false theories, stupid delusions, and false conclusions, and study for himself laboratory experiments which are taking place throughout the land, and after doing so, it is his duty to do what he can in the interest of the children of this country. It is his duty to the State, and it is his duty to posterity to carry into every home he visits the principles which have been so forcibly and tersely presented to us this afternoon.

Curran Pope, Louisville: It is very rarely that a man can compress into a few pages all the kernels of truth that Dr. Hurty has compressed into his paper. Since Dr. Anderson has dealt in personalities, I will say that I have not prescribed alcohol in fifteen years. (Applause.) That, as a rule, I do not believe in it. In the class of nervous and chronic invalids with whom I am thrown in daily contact, it would be ill advised to prescribe alcohol in any form. Occasionally in crises it seems as though it has been of help. I have seen that. That we must admit, but in the ordinary everyday prescription for non-acute disease, alcohol does not occupy a place, and it seems to me that with the truths that Dr. Hurty has laid before us, it is not difficult to comprehend the nature and the necessity of at least being very cautious and very careful of what is often spoken unthoughtfully to patients. For instance, take a teaspoonful of whiskey at night if you want to go to sleep, and that is kept up night after night until habits may be contracted. This caution applies with double force to many drugs, morphia, et al. How many of you, every time you write a prescription, write upon it, "No copy, no repetition," in order to safeguard the patient? How many are there in this room to-day that have the moral and the physical courage to say to a patient you shall not have my prescription refilled without the stamp of my approval? I would like to ask how many of you do that? (Here several members put up their hands.) Good for you. I never write a prescription even for bicarbonate of soda that I do not stamp it in red ink. "No copy, no repetition." We owe a sacred and solemn duty to the people for whom we prescribe drugs, and we must be careful every time we write a prescription containing alcohol that we do not lay the foundation for any habitual use of alcohol or drugs. Granting that all Dr. Hurty says is true, and knowing his vast experience, in which mine is limited as compared with his, I am going to ask him in closing to tell us in a few words if he can, what he thinks is to-day the real practical solution of the question under discussion. Is it prohibitive or is it educative? For my part I am in favor of reasonable and rational control and do not as yet see in any of the plans offered even a rational solution of the problem. One must not forget that there are many persons who use alcohol because they are psychoneurotics and are not psychoneurots because they have indulged moderately or freely in alcohol—statistical evidence and fine-spun theories, fanaticism and foolishness must give way to a clear scientific view of the problem and its proper handling.

Milton Board, Louisville: I am glad Dr. Hurty came here to-day for the reason that he has brought to the doctors of Kentucky the importance of making a study of alcohol as a health problem, attacking it, in a large measure, after his own methods, taking it out of the domain of

party politics, as well as out of the influence of the church and putting it into the hands of the medical profession primarily, and all those who are engaged in health work secondarily: because it is to-day, stripped of everything else, the most important health problem that we have confronting us. Granting that certain experiments can be tried out, indicating that it has food value, which I do not concur in; granting that in certain crises it may appear to have a stimulating effect, yet we know as doctors, and it is our duty to teach the people, that there is no way to separate its stimulating effects, if it has any, its food value, if it possesses any, from its paramount influence as a narcotic because it is, first of all, essentially a narcotic drug and must be so classed and must be so considered. It has no place in the practice of medicine, and it is up to the medical profession to begin to educate the people of Kentucky that it is a dangerous drug, a drug that is not to be used indiscriminately; that it is to be put in a class with opium, cocaine and other dangerous narcotic drugs. We owe this to the citizens as doctors in the communities in which we live. Another common thought: Although strongly alcoholic liquors are regarded as exceedingly dangerous, yet you hear that "beer in moderate quantities never hurts any one." I want to go on record here to-day as stating two things. The first is that ninety per cent. of all individuals who have ever become addicted to cocaine are addicted to it to-day and are incurable. The second is there has never been a beer drunkard up to this good hour who has become a sober man. Beer drunkards are hopeless drunkards, utterly so. It brings about a pathologic condition in the brain which is incurable, which is hopeless, which is more dangerous and more pernicious than any other form of alcoholic indulgence.

J. N. Hurty, (Closing): I am very much obliged to the gentlemen for the kindly way in which they have received my denunciation of this terrible drug. I have had an awful experience with it, not individually, because I never have been addicted to it, but it has been a curse in my family, and I cannot find words strong enough to denounce it, hence my apology for putting the question before you in such a strong and vigorous manner.

Dr Pope asked how are we going about to solve this problem. It is so prodigious that I do not know except to keep on fighting it and do the best we can, and study it from time to time. Education will have a great deal of influence in controlling it. It will do a great deal. Prohibition will do a great deal; law will do a great deal, but underneath all that, it is for us to do what else we can. I believe through medical science (not medical men alone or doctors, because we are only representatives, and most of us are feeble representatives of that great science called medical science) more good can be

brought about to mankind than in any other way. I cannot see how a man can be regenerated morally except through physical regeneration. What is physical regeneration? It is the removal of pathologic conditions. Physicians are even trying to do away with the science of pathology every time they go to the bedside. Take typhoid fever, for instance, physicians are trying to remove its cause and prevent it as well as to remove its effects. The medical man is constantly fighting pathologic conditions or disease, and at the bottom of our social troubles lies disease.

In talking to Dr. Vaughan at dinner a recent instance came to me. I was called by a visiting nurse to go with her to see an extraordinary case of poverty and misery from tuberculosis. We found a woman upon a bed of rags dying from tuberculosis, with her little girl, seven years of age, attending her. We found out by questioning her that she was a farmer's wife. Her story was that her husband, a thrifty man, was purchasing sixty acres of ground; he had about paid for half of it, when typhoid fever overtook him and he died. There is pathology of poverty. She sold the farm, and cleaned up as much money as she possibly could. She received about fourteen hundred dollars, removed to the city, which was a foolish move, but she did it, and gradually step by step developed into the condition in which we found her. Finally tuberculosis overtook her, and there she was dying.

The medical profession is doing its best to remove causes of disease and to teach the people how to live, and when disease does come or suffering they try to relieve it. Is there any nobler, higher, or more beautiful work possible? No, there is none. How it is to be done finally, and what method of warfare we are going to adopt to combat disease, just at a time when we have so many evils and so much misery and unhappiness, I do not know. But we must fight and keep on fighting and I am sure we will accomplish a good deal for mankind.

Again, I want to thank you for your kindly reception of my very severe denunciation of this drug and the diseases that follow in its wake. (Applause).

Ceclonic Inflation in Appendicitis.—Inflation of the colon, the authors state, should be regarded merely as an aid in the diagnosis, history and physical examination being far more valuable. The authors have seen no positive reactions in normal individuals. The test is in no sense pathognomonic of chronic appendicitis.

RENAL TUBERCULOSIS, ITS DIAGNOSTIC DIFFICULTIES AND SURGICAL PROBLEMS.*

By FILIPP KREISSL, Chicago.

While I was attending the German Urological Congress in Vienna in 1907, the nestor of Urology in Continental Europe, James Israel, presented a paper on the "Ultimate Results of Nephrectomy for Renal Tuberculosis"—comprising the observations of 1023 cases operated on by himself and such men as Garre, Heresco, Leguen, Pousson, Rafin, Reevsing, Zuckerkandel and others from 1892 to 1912. Some of his conclusions were as follows:

DIVIDING THE CASES INTO GROUPS:

1. Early deaths—within 6 months after the operation,

2. Late deaths—beyond 6 months up to 16 years after the operation, it appears that of the deaths of the first period, 26 per cent. were due to acute general miliary tuberculosis and tuberculosis of the meninges, 15 per cent of tuberculosis of the respiratory organs, and 21 per cent to renal lesions.

Of the deaths of the second period, 13 per cent were caused by acute miliary tuberculosis, 43 per cent. by tuberculosis of the respiratory organs, and 40 per cent by renal lesions.

After the second year there was a decided and steady decrease in the postoperative mortality. While over 54 per cent. of all far deaths occurred in the period between six months and two years, there was only a mortality of 31 per cent. between the second and the sixth year, and of 14 per cent. from the sixth to the sixteenth year. Of miliary tuberculosis, 63 per cent. died in the first period, and 37 per cent. in the following 16 years.

The higher mortality rate of the first period might have been at least partly due to a faulty technique, to contamination of the wound-bed during the operation, and rapid spreading of the infection over a large area.

Among the 57 fatalities from pulmonary tuberculosis, 42 were known to be present before the operation, but it is well to presume that these figures are too low. Small areas of inactive apex infiltration accompanying renal tuberculosis do escape discovery by our methods of clinical examination. That we surgeons also are sometimes guilty of a superficial examination should be admitted. As soon as we are reasonably certain of the diagnosis, "Unilateral Renal Tuberculosis," we rush the patient to the hospital for fear that the other kidney or the lungs might become in-

involved, instead of first ascertaining if they are not already involved. Sometimes we do not even take the trouble to search for other foci in the rest of the urogenital tract.

It further appears from the above tables that the *death rate from renal lesions* was twice as large in the second period after operation than in the first, leaving the question open:

"Did the remaining kidney become diseased after removal of its mate, or was it diseased before the operation but remained unrecognized because our diagnostic methods were not sufficiently refined to discover the incipient lesion?"

Let us inquire into the nature of these fatally terminating renal lesions.

The total percentage of far deaths from these lesions was approximately 40 per cent. which divided in two groups—tubercular and non-tubercular—showed one-third of them having been non-tubercular, most of them being of the nephritic type.

This type we assume to be caused by the toxins originating in the tubercular kidney, which as experience has taught us, oftentimes subsides after the surgical elimination of its source. When this recovery does not occur, I believe that these lesions were too far advanced to undergo involution or that some of them were cases of another type of nephritis upon which tuberculosis became engrafted. This is merely my personal opinion, no further information being obtainable from Israel's statistics.

Much higher is the death rate from *renal tuberculosis*—60 per cent. and it is of great interest to learn that in 32 far deaths due to tuberculosis of the remaining kidney, its existence was known at the time of the operation.

From this exhaustive and carefully compiled report, it appeared that the permanent results after such a formidable operation as nephrectomy were rather disappointing.

While conditions have changed to the better since then, they are still far from being really satisfactory, and I consider it, therefore, not untimely to inquire into some of the underlying causes.

We all are agreed at the present time that renal tuberculosis is as a rule unilateral at first. Clearly then we may expect the best and most lasting results from early and radical measures, which will prevent the spreading of the disease along the urinary and genital tract or to other parts of the body. An early diagnosis of the condition is therefore imperative, but unfortunately we are greatly handicapped in our endeavor for several reasons.

First. Because renal tuberculosis, the type which is the subject of this address, is an

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extremely chronic disease, the early symptoms of which are usually so indistinct and appear in such long intervals that they fail to arouse the attention of the patient.

Secondly. Because many of its symptoms are also associated with other minor and major derangements in the urogenital tract, and when treated as such, seem to subside at least for a while, thus brushing away any suspicion as to the real trouble which might have entered our mind.

Third. Not infrequently the disease is preceded by a chronic gonorrhoeal cystitis the symptoms of which blend with those ushering in tuberculosis.

Fourth. The medical man in whose hands most of these cases are drifting in the beginning fails to recognize the condition before advanced lesions have set in. I admit the partial truth of this, but in this he is sharing the honors with the surgeon, the gynecologist and the urologist. The majority of the general practitioners, according to my experience when in doubt "consult," the other fellow the rule when in doubt—"operate," and this brings me to the main point of my address.

What designates the early and what the advanced stage of renal tuberculosis? Are there any distinct symptoms which would allow to draw the dividing lines between the two?

The classical symptoms of renal tuberculosis, pain on the affected side, enlargement of the diseased kidney, albumen, pus, blood and the tubercle bacillus in the urine, fever, night sweats and emaciation are rarely ever synchronously observed, and if it so happens, then they belong to a later far advanced stage of the disease.

The most frequent symptom of the early stage is "hematuria" without a palpable cause occurring in about 5 per cent. It might be insignificant or so profuse as to become alarming. It might be more or less continuous or it might not recur for many months and years. If very profuse it is oftentimes associated with severe renal colic. The persistent microscopic finding of red blood cells has been considered as pathognostic of renal tuberculosis, but hematuria of the same type occurs in toxic nephritis, in ordinary varix and other renal lesions which might not be surgical ones.

Albuminuria is thought to be a steady companion of renal tuberculosis in both the early and advanced stage. Contrary to this accepted view, we know it is as a very elusive and independable symptom. Not that I would deny its significance when found, but in the early stage it is usually of an intermittent character requiring many and repeated examinations. Even in the later stages it might be permanently absent. I merely remind you

of the cases of complete destruction of the renal parenchyma with substitution of caseous masses and also of the type known as "closed tubercular pyonephrosis" caused by a complete obliteration of the ureter.

Pyuria—meaning macroscopic pus in the urine—is not a constant nor frequent symptom of the early stage. However, pyuria in the absence of any other pus producing germ, strongly points to tuberculosis. Almost with certainty, we may assume this diagnosis in the presence of urea decomposing germs in an acid fast cloudy urine.

Polyuria and pollakiuria are frequent consorts of incipient renal tuberculosis. Unfortunately its pathognostic significance is oftentimes misinterpreted when the urine happens to be clear.

It is then pronounced as "irritable bladder"—a term without a meaning, or as "functional neurosis," or as "reflex neurosis," if incidentally lacerations, malpositions or other lesions are found in the female genitals or pelvic organs.

Nocturnal incontinence in adults or in childhood, after control over the vesical muscles was once established, strongly points to renal tuberculosis. Especially in childhood it is oftentimes the first alarm-signal and should invite a thorough examination.

The coincidence of pyuria and incontinence in the absence of tubercle bacilli in the stained sediment might also induce the diagnosis simple pyelitis. The presence or evidence of past tubercular lesions of the bones, joints, glands and skin should be an important diagnostic aid.

Vesical tenesmus manifest in about 70 per cent. is another symptom which is observed in the earlier stage. It is present even at a time when no visible tubercular lesion in the bladder wall can be found and when the urine is still macroscopically clear. Its origin under these circumstances is explained by some as a renovesical reflex, by others as due to the irritating effect of the toxic urine on the trigone.

Palpation of the kidney in the early stage will be fruitless because a perceptible enlargement of the affected kidney is caused by advanced lesions. Furthermore, in some cases destruction of the parenchyma and its substitution by sclerotic fatty tissue occurs a process which leads to atrophy and reduction of the size of the kidney. Finally we oftentimes find the healthy kidney considerably enlarged as a result of a compensatory hypertrophy. Here I may also mention that the type known as "tubercular fibrous perinephritis" presenting itself as a smooth hard tumor between the loin and the lateral abdominal wall, which on account of its very limited motility might be mistaken for a hep-

atic or splenic tumor. In those cases the parenchyma is almost completely replaced by abscess cavities and therefore the presence of large quantities of thick greenish pus in the urine should be of assistance in avoiding these diagnostic errors.

The temperature curve is of some value in the early stage. Occasionally in the course of a prolonged observation we find a slight rise of the afternoon temperature, in other cases the latter is normal but the morning readings are subnormal. This taken together with other partly corroborative symptoms, for instance albuminuria or hematuria, I consider good circumstantial evidence of renal tuberculosis, at least sufficient to suspect it and to invite further search in this direction.

Corroborative evidence is only furnished by the proof of the tubercle bacillus in the urine. In the so-called early stage, however, it cannot be demonstrated by the tinctorial process—in more than 1 per cent. to 3 per cent. according to various authors.

Sometimes we have better luck by examining the centrifuged sediment of a 24-hour specimen, but even then we might have to repeat the procedure several times before securing a positive result.

The hypodermic tuberculin test is of distinct value in a group of cases in which we have reason to suspect the condition, yet are unable to find the bacillus by the previous method. We have the body temperature observed every four hours for 24 hours before, and every two hours for 24 hours after the injection. We then begin with 1-2 milligram of diagnostic tuberculin. If there is no reaction to this 1 milligram is given the second day. When positive there is a distinct rise of temperature usually within 8 to 12 hours, and the patient is likely to feel out of sorts for a day or two. It might also set up a focal reaction, pain in the affected kidney, vesical irritation and eventually hematuria. Oftentimes, but not always, tubercle bacilli are found in the urine obtained during this reaction.

The "biological test" is still more accurate and dependable. The inoculation of a guinea pig, is said to give 85 per cent positive reactions in tubercular lesions, but some authors think that the susceptibility of the animals to contract tuberculosis in the ordinary way weakens the importance of a positive reaction. Others hold that little importance should be attached to a negative result because a portion of the animals is refractory.

This, together with the fact that it takes six weeks for a definite answer (a dangerously long wait in some instances) made a shortening of this period desirable. At the last German Urological Congress, Meyer reported what he claims to be an infallible biological test, consisting of the combination of inocu-

lation and hypodermic injection of tuberculin. He stated that if a guinea pig be successfully inoculated—hepatic or peritoneal—and 0.5 test tuberculin be hypodermically injected after the 11th to 14th day, the temperature of the animal will drop 3 degrees below normal and death will ensue within 12 hours. This typical drop of temperature will also be observed if the animal should survive, but it never occurs if the inoculation was negative. This test, its author claims, proved positive in 99 per cent while control animals treated by inoculation alone reached 45 per cent. only.

From our experience I would suggest not to be satisfied with one negative biological test, where tuberculosis may be reasonably suspected. Since just in the early stage, before tubercular foci have broken through the bacilli are not at all times present in the urine, several repetitions of the test are demanded for more definite conclusions.

Of greatest value is the cystoscopic examination of the bladder and the catheterization of the ureters, but while it enables us in conjunction with the animal experiment to diagnose the condition and locate it in the respective kidney, it does not inform us with certainty of the stage of the disease. On the whole the degree of vesical distress and vesical and ureteral lesions is in direct proportion to the extent of the process in the kidney. But we find sometimes in our operative work the cortex of a kidney studded with tubercles or several caseous foci in the pyramids, with very little vesical distress and only insignificant typical vesical and ureteral lesions. At other times a single caseous focus in the kidney is causing very painful cystitis and extensive vesical ulcerations.

The diagnosis of renal tuberculosis cannot be considered complete without catheterization of the ureters, nor is it possible to proceed with surgical steps without ascertaining the presence of another kidney, its essential freedom from serious involvement and the degree of its functional activity. But in this endeavor we again meet with doubtful conditions and technical limitations.

Which course are we supposed to take when we recover pus, blood and tubercle bacilli from one kidney, and the bacillus alone from the other? Are we to assume that both kidneys are infected but in a different degree or should we accept the bacilluria of the latter as a possible attempt of the organisms to rid itself of the germs which have entered the circulation from the really diseased side. Those men who are in the habit of exact pre-operative examinations and prolonged post-operative observations should be in a position to furnish this most important knowledge, which would shed some light on the high post-operative mortality from renal disease.

The functional tests or renal activity in order to differentiate between essential disease and simple elimination bacilluria are of limited diagnostic value. It is beyond the scope of this address to enumerate them all or to point at their obvious defects. I may suffice to say that they can be utilized to demonstrate the more advanced renal lesions, but for the same purpose we are able to get along just as well with the determination of the total excretion of solids, both with and without artificially produced polyuria.

Having secured our data by all the previously mentioned methods our work is not finished. You gentlemen are surely familiar with the various anomalies and deformities of the upper urinary tract. Some of them are of such a nature, that they interfere with our diagnostic and fateful surgical steps. Most of these pitfalls we shall be able to avoid by combining bilateral catheterization with the roentgenogram and pyelography.

I shall endeavor to demonstrate the importance and value of this procedure on two anomalous conditions both of which have come under my own observation. One of these has been fully described in the textbooks of anatomy, but seems to have received little attention by the surgeons. It is the branching of the ureter, the three more common types of which are:

Type 1. The bifurcation of the ureter occurs outside of the hilum without the formation of a renal pelvis, both branches advancing as calices and terminating in the fornices of the papillae.

Type 2. One branch terminating in a small pelvis, the other one forming calices like in type 1.

Type 3. Both branches take part in the formation of a pelvis.

You will readily understand the possibility of tuberculosis being established in that part of the kidney which communicates with one branch only and that a catheter entering the other branch might recover a perfectly normal urine. You will also see the probability of entering the branch of the diseased part and obtaining pathologic urine at another examination done by yourself or somebody else. Imagine the confusion arising from recovering alternately normal and pathologic urine in the course of the same examination, a phenomenon caused by the temporary blocking of the narrow isthmus connecting both branches. Owing to these facts the same kidney may also show large fluctuations of functional value and coloring tests.

Another congenital anomaly is the crossing of one ureter over the spine into the ureter of the other side, or the crossing of both ureters each running down to the opposite side of the bladder.

In the first instance we might observe changing conditions identical with those presented in the case of branching ureters. In the eventuality of a complete crossing, the reliance upon the result of cystoscopic findings will have the fateful consequence of removing the healthy kidney. Such a disaster can only be avoided by adopting bilateral catheterization combined with radiography as a routine procedure.

By pointing out the fact that cystoscopy can be performed in patients not older than four years and catheterization of the ureter in those not older than six years, I desire to make a special plea for the early recognition of renal tuberculosis in childhood.

Local conditions on the other hand render cystoscopy and catheterization oftentimes a very difficult and sometimes impossible task.

The tuberculous bladder offers more or less resistance to distension with fluids in all stages of the disease. The pain and resistance is frequently so great that it does not subside even under a general anesthetic. Since no other vesical lesion shows such extreme sensitiveness under the same condition, this may be accepted as pathognostic.

Extensive vesical ulcerations, edema around the ureteral os, ureteral stricture and distortion interfere with the passing of a catheter even in the hands of experts. In such extreme cases we are compelled to resort to extreme measures, not so much for the purpose of diagnosis which then is usually quite clear, but in order to ascertain the condition of the other kidney. We expose the upper part of both ureters and collect the necessary quantity of urine through a small incision.

I have attempted to submit to you the difficulties as they are confronting us in the diagnosis of renal tuberculosis, particularly in the so-called earlier stage; these difficulties are by no means insurmountable if we avail ourselves of all of our present day methods, in the development of which we have made great strides in the last decade. Indeed if we are looking back over the results of our surgical intervention in this period we can see already the improvement in the percentage of the early and late postoperative mortality compared with Israel's statistics. These we must not forget included all work done in the period from 1892 until 1912, when diagnostic facilities, surgical technique and experience with new methods were not so far advanced.

I hope I have made myself clear that the possibilities of an early diagnosis does not only rest on the appreciation of any one and all symptoms, no matter how slight or how grave they may appear; that the employment of all our present day methods will be of great assistance in many cases, but that re-

peated examinations at different times will be required in others until the real condition becomes clear or until we should arrive at a point where explorative surgical steps will be justified.

Gentlemen, I am pretty near the end of my address. Allow me but a few words in regard to our therapeutic problems, the solution of which also has some bearing on the fate of those afflicted with this wide-spread disease.

As a matter of fact in the light of our present knowledge of the nature of renal tuberculosis, and taking advantage of the valuable figures of Israel's statistics and of our own experience with various therapeutic methods as they came and passed, there should not be any doubt in our mind as to the proper course to pursue when once the conclusion is reached that the kidney is the site of a tubercular lesion.

In 1898 the much lamented Rosewell Parks of Buffalo expressed himself on this subject as follows:

"Early tubercular lesions of the kidney come under the observation of the physician rather than the surgeon, and require the former's skill rather than that of the latter. They are rarely of a character for which any benefit by surgical interference can be obtained."

Gentlemen, there is a far cry from this then authoritative statement to our present-day attitude. However, the warning voiced by this master of surgery and by others, unquestionably retarded the development of our more efficient therapeutic methods and I venture to say, contributed a goodly share to the post operative "near and far death rate."

It created an unwarranted and harmful temporizing and encouraged the indiscriminate use of tuberculin at any stage of the disease. The more conservative advocates of tuberculin disclaimed its use for what they thought to be advanced cases but advised it in the earlier stage.

In order to fully appreciate the fallacy and inconsistency of this attitude, I again refer you gentlemen to my remarks concerning the not infrequent disproportion of the renal lesion and the manifest subjective symptoms.

The time at my disposal does not permit to remain longer on this subject except to say, that to-day we know most positively that tuberculin if used in refract doses does not help and if injudiciously pushed to the limit of tolerance causes irreparable damage.

In a series of observations general improvement increased body weight, or the temporary disappearance of the bacillus from the urine may be noticed, but this also occurs in cases, which have received no treatment whatsoever, and the latency of symptoms does not

denote a cure. Contrary, numerous observations over a longer period demonstrate the progressive character of the disease, which finally demands operative steps at the real late stage. It is regrettable, that very few surgeons tell us of the condition in which they found such kidneys which had undergone more or less prolonged tuberculin treatment.

The circumstance, that single or isolated tubercular lesions are found on operated specimens, promoted the method of partial nephrectomy or resection, which had its conception in the inadequacy of our diagnostic facilities as regards to the other kidney or in the wrong interpretation drawn from their results. But it was fully demonstrated that even if only one isolated, macroscopically visible lesion was found microscopical foci had invaded the parenchyma along the blood vessels, and therefore no complete eradication from an incomplete method may be expected.

Fortunately the majority of us agree at least in this one point at the present moment, that a permanent cure can only be hoped for by the earliest possible removal of the diseased kidney after the earliest possible diagnosis of the condition existing therein. We may with certainty look forward to attain this result, if no other tubercular foci be present. But there is where our ways part. Some of us are strongly opposed to nephrectomy if the other kidney shows any degree of tubercular involvement, of ordinary or toxic nephritis, or of impaired renal activity. Advanced vesical ulcerations, manifest foci in the genital tract, in the lungs or elsewhere compose the rest of the objections which are raised.

Based on the foregoing statistics and from an unprejudiced point of view we have to admit that a number of these objections are well founded, but held in this general and sweeping way they are, I believe, too radical.

Before all we know that toxic nephritis of the remaining kidney, resulting from the affection of its diseased mate, subsides after nephrectomy, provided the intoxication has not permanently crippled a larger part of the secreting surface. This we are able to decide by our present methods of functional tests, and we are also able to differentiate this type of nephritis from Bright's disease by the general changes in the circulatory system so characteristic for the latter condition. On the other hand as stated before, the functional tests can only be relied upon, if made repeatedly at different times and under different conditions.

It is furthermore our experience that in a small number of cases in which we had recovered otherwise perfectly normal but bacilli-carrying urine before nephrectomy, the bacilli disappeared permanently after the opera-

tion. If this postoperative inspection would be generally adopted, we would get more positive information from which to draw our conclusions.

Extensive vesical ulcerations oftentimes point to bilateral kidney involvement, but not always, and in themselves should not constitute a contraindication of nephrectomy. We have seen extensive lesions heal spontaneously after the operation and at other times a few small ulcerations require prolonged postoperative attention.

In the management of the ureter after nephrectomy the extremest views are held. They are varying from the principle of a most complete resection to that of indifference and "let it take care of itself." I have to leave this subject open to discussion, but I may be permitted to say that there are things in surgery that should, but cannot, be done, and others than can but should not be done.

No sane surgeon would hope for a permanent cure in far advanced bilateral renal tuberculosis by any method, but cases have been reported in which the kidney, carrying the minor lesion, recovered completely after extirpation of its mate. Nothing indicates in these reports that successful attempts were made to differentiate between simple bacilluria and the real minor lesion nor on which points the diagnosis of a "minor lesion" rested.

I do not think we would be faithful to our duty to remain inactive if a patient is suffering agonies from all the symptoms of bilateral renal and vesical tuberculosis.

By conservative surgery, unilateral or bilateral nephrectomy, eventual ureterostomy, we can do a good deal to alleviate the torturing cystitis, reduce the consuming septic fever and prolong and make life bearable.

DISCUSSION.

Carl Lewis Wheeler, Lexington: I am much pleased with Dr. Kreissl's paper, and I don't think that any discussion can be added other than in the way of confirmation and emphasis.

We must admit that Israel's compilation of statistics of the various European operators, comprising one thousand and twenty-three cases of renal tuberculosis, and following them up and drawing such deductions is more than we can do in this country.

Within the last eight or ten years, I have observed sixteen cases of renal tuberculosis. Four of these cases were bilateral, and of course were passed up without surgical interference. Of the twelve unilateral cases, one refused operation. Eleven of these cases were nephrectomized. In this series, there were nine females and two males. The right kidney was involved in ten cases. The left kidney in one.

Of the near deaths, after nephrectomy, three went down with lung involvement within less

than six months. Seven cases have had a stormy convalescence with irritable contracted bladders; due to the fact that tuberculosis of the urinary tract was so far advanced when the diagnosis was made.

Renal tuberculosis is rarely a primary affection, and is usually secondary to some other tuberculous focus. In this series of eleven cases following nephrectomy, I only recall one that is clinically and cystoscopically well, which is due to the fact that the diagnosis was made early—before the bladder became much involved or badly damaged by ulceration which results in contraction.

I cystoscoped her a few days ago, which is four years after operation. Cystoscope revealed a normal bladder mucosa; a right motionless ureteral os, surrounded by a small scar which was previously a small tuberculous ulceration. She has a bladder capacity of nearly 400 c.c. and with no urinary symptoms whatsoever. I might add that this patient was sent West four years previous to nephrectomy for some involvement of the throat.

This paper should be of especial interest to the general practitioner, and should arouse their suspicion among children who have had control of their urinary sphincters and are developing a nocturnal urinary incontinence, as such conditions point to renal tuberculosis. They should at least investigate, after excluding irritation such as oxaluria, pinworms and pyelitis following acute infectious diseases.

Statistics show that the prevalence among males and females are about equal.

Regarding functional tests, there has been much said. There are a great many spectacular dye tests on the market. I do not take much stock in any of them, as they are all faulty. I rely absolutely upon a rigid microscopical urinary analysis, noting the renal findings, plus the total output of urea.

In renal tuberculosis, sometimes you will find the fellow kidney, which is not supposed to have a tuberculous focus, to be painful with the urine from this side containing albumin and casts, or in other words a toxic nephritis, which will clear up after nephrectomy on the opposite side.

I recall one case in which there was a tuberculous kidney on the right side, and an aggravated toxic nephritis on the left side, as the urine from this kidney contained albumin and casts. I advised nephrectomy, but the surgeons rather hesitated. I insisted that while there existed toxic nephritis on the left, that this kidney was capable of taking up the work, and that the nephritis would subside after removing the offending organ. The right kidney was removed and the left kidney did not even stagger in taking over the work and the nephritis subsided in a few months.

Obstinate cystitis in women, (of course excepting venereal taint) that does not yield to the usual treatment, is always suspicious of renal

tuberculosis. Not finding the tubercle bacilli in the urine is not negative. I would continue to investigate. I have advised nephrectomy without ever finding the bacilli in the urine as the cystoscopic picture of the ureteral orifice is too "clear-cut"—nothing else looks like it, and with the clinical symptoms, nothing else acts like it.

The biological test is the only positive evidence. The treatment of the ureter stump is a question of considerable moment as many surgeons prefer to remove the ureter down to the pelvic brim, and often the kidney is ruptured and the pus running into the kidney-bed infecting the entire wound. A better way as Dr. Kreissl suggests is to ligate ureter twice near kidney pelvis and cut between with a Paquelin cautery and stitching the end of the ureter in the lower angle of the wound. In some cases where renal tuberculosis has existed for some time, you will find a fibro-sclerotic perinephritis which involves the capsule and loose connective tissue. In these cases you will encounter nothing but adhesions. I recall one of these cases where the surgeon met with such adhesions and he tore through the diaphragm into the pleura after the kidney had been ruptured. In these cases I would suggest draining the perinephritic sac and leaving the wound wide open.

J. Garland Sherrill, Louisville: Since 1905, when this subject was presented to the American Medical Association, I have been very much interested in it. We have advanced considerably since that time in the treatment of this condition. Dr. Kreissl has pointed out the advancement we have made, and to my mind his paper covers the subject completely. I wish to concur in almost everything he has said, and simply to emphasize some of the points he has brought out.

A very important thing is the question of percentage of cases in which tuberculosis develops, and I am referring now to tuberculosis of the kidney. I do not think we can do better than to follow Kronlein's classification of single and combined tuberculosis rather than primary and secondary. In two per cent. of the cases only do we find solitary involvement of the kidney, a remarkably low percentage. The age at which these patients come to consult us is usually in the flowering period of life, in early adult life, from the twentieth to the thirtieth year. That in itself is an important point in the diagnosis. The earlier symptoms we have are frequency of micturition and an increased amount of urinary output. The first symptom that will call the patient's attention to the condition is hematuria—the second perhaps is the painful urination or dysuria. Vesical tenesmus develops frequently after the tubercle bacillus passes down and with it pus products from the inflamed kidney, and this occurs after there has been a breaking down of the kidney tissues in the calices and emptying into the pelvis of the kidney.

In order to manage a case of tuberculosis of the kidney, we must first know the condition of the kidney itself. Furthermore, we must know, as well as possible, with our methods of precision, the condition of the opposite kidney, and next the condition of the other organs of the body, as to whether or not the patient is suffering from general or a localized tuberculosis. The condition also of the ureters should be well determined in studying these cases before we begin to apply our treatment.

The point mentioned by the essayist in regard to pyelography is specially well taken. No one can tell the direction of the ureters, or the character of the kidney pelvis, without making this complete test, and it is certainly worthy of consideration.

He mentioned the question of disease of the kidney on one side and bacilluria on the other, and also the question of diseased kidney on one side and evidences of disease upon the floor. In other words, the presence of pus and blood and bacilli on the opposite side, but in lesser degree than on the main side. This occurs as the disease advances on the affected side. These are important points in determining what should be done for the patient.

I have seen patients recover where nephrectomy was performed for the worst kidney or the one most diseased, and where the patient recovered fully, notwithstanding the fact there was blood, pus, and tubercle bacilli in the urine from the opposite side. I account for this condition by the fact that you remove a certain nidus of infection remaining and thus build up the resistance of the patient, and after removing the diseased kidney the patient develops an immunity, so that he can throw off the affection on the less diseased side. When you take away one kidney you stimulate the circulation of the other kidney, and in addition the resistance of the patient develops and takes care of the disease on the other side. The bacilluria on the opposite side may be cleared up entirely upon the removal of one kidney.

The question of the operation to be done in my mind is an important one. Shall we do a nephrotomy or nephrectomy? In my experience nephrotomy has not proven successful. I did a partial nephrectomy in one case and had to take out the kidney later. Mr. Henry Morris has taken out one kidney and subsequently one-third of the other, and the patient has recovered. In one of my cases both kidneys were involved. This patient under proper hygienic surroundings and proper medicinal treatment went on to complete recovery. Where there is a difference in the two kidneys, the disease being well advanced on one side and not so far advanced on the other, nephrectomy is the proper operation, and I doubt the wisdom of nephrotomy in most of these cases.

Irvin Abell, Louisville: I wish to express my appreciation of Dr. Kreissl's paper, and his con-

clusions from an experimental standpoint as well as from a clinical point of view, I do not think can be differed with. There are one or two features about renal tuberculosis that cannot be definitely foretold by any person, as the author has pointed out, unless a careful examination is made from every standpoint. Incidentally, I would emphasize the importance of a thorough clinical study of the case, and especially an X-ray examination of these patients should be absolute in each and every case. It is true, these anatomical defects are not frequently encountered, but when they are they can be fraught with most disastrous results, and that is one feature that can be told by a careful and thorough examination. We know we cannot accurately foretell the extent of damage to the opposite kidney by the toxins. Most of these cases have cleared up; one or two in my own experience have not done so, and have died subsequently from a toxic nephritis without showing evidences of a tuberculous involvement.

From my own experience the question of removal of the ureter has been satisfactorily settled. The difficulty of approaching the lower end of the ureter has been demonstrated in removing stones from its pelvic portion, and I have personally felt that the addition of this operative trauma to a nephrectomy should, if possible, be avoided. I have never seen a sinus persist longer than a few months, even when the ureter has been tied just below the kidney. The lesser operation, which will give relief, is the one that should be resorted to, and in my experience, the ureters which have been left behind have given trouble but for a short period of time, each and every one clearing up without requiring a secondary procedure.

J. W. Kincaid, Catlettsburg: In view of the fact that tuberculosis of other organs rather than the kidney is perhaps encountered more frequently, there were some points brought out in Dr. Menifee's paper which should be re-emphasized in order to bring them more forcibly to the attention of those present. There are three diagnostic points which I think should very strongly excite our suspicion as to a tuberculous condition being present. One is the presence of indigestion. Next, the progressive loss of weight, however slight, coupled with a rise of temperature in the evening with a subnormal temperature in the morning. These will nearly always, or at least in very many cases, point out a beginning tuberculous process somewhere. The physical examination of the patient may not enable you to exactly determine where the lesion is located; the signs of auscultation and percussion of the lungs may be practically negative, but those three signs are the cardinal ones in the beginning of tubercular conditions, and should at least excite our suspicion, and I think they should be emphasized by calling attention to them.

Curran Pope, Louisville: I want to utter a

few words of caution with regard to the danger of the general practitioner in dismissing patients so frequently with a diagnosis of neurasthenia. *Neurasthenia vera* is, comparatively speaking, a rare disorder. Frequently cases that are diagnosed *neurasthenia vera* are not *neurasthenia vera*, nor yet *neurasthenoid* but are really cases of latent tuberculosis, and a great deal of care has to be exercised in eliminating these cases just as in the case of patients in the southland, who present a good many *neurasthenoid* symptoms but who are in reality suffering from a chronic malarial infection.

I have made quite a number of original investigations in this line which I embodied in a paper published last year and the same deductions that appeared in that paper apply with equal force to the question of latent tuberculosis in patients that are labelled *neurasthenic*.

I would like to call attention to one other fact stated in one of the papers, and that is, the physician should avail himself of the X-ray. As a matter of fact, he does not. He should. That is true. But if you had stood, as I have before the fluorescent screen day after day and seen the shadow in the hilus as frequently as I have, and seen the number of conditions, both of latent and healed tuberculosis, you would come to the conclusion that it was a case where the physician really should employ this method, and that, where there is the slightest doubt in the world as to whether we have to deal with a lesion in the lung, a picture should be taken stereoscopically, and then we have an opportunity of not only knowing where the lesion is but its actual extent.

While we can never get away from a clear, concise and sometimes lengthy anamnesis and from the clinical symptoms, still the supplementary work that can be done in the laboratories in the way of examinations, particularly by the X-ray, will almost certainly lead to a diagnosis of tuberculosis. You can tell bone tuberculosis almost unfaillingly. You can diagnose pulmonary tuberculosis, and you can diagnose glandular tuberculosis of the abdomen. At present I have a very rare plate in which there appeared on it collections of racemose bodies, that turned out upon operation to be a case of extensive glandular tuberculosis in the abdomen. The diagnosis of glandular tuberculosis was made by the surgeon and myself. As the X-ray can tell so far ahead, I will say this: I have mapped out pulmonary areas on the body by means of the fluoroscopic screen, when the skilled diagnostician could not outline them by percussion and auscultation. I have tried it out. I have mapped it out, and he has not been able to detect by percussion a lesion where the screen and the plate showed definitely tubercular lesions. It would seem that when with the ordinary methods of diagnosis we can outline a tubercular lesion we have reached a point where we have to deal with a serious problem in therapeutics.

F. Kreissl, Chicago, (Closing): I am afraid that I have already taken too much of your time in presenting my paper. Owing to the time limit, I have tried to condense a lot of material into a small space and on this account I am afraid I did not make myself sufficiently clear on some of the important points.

However, I have tried as best as I could to do the subject justice. I wish to thank you very much for the kind way in which you have received my remarks and I also have to apologize for some of these pictures, which as you observe were made by an artist who put into his work more zeal than skill. They are representing specimens which I have in my possession.

The first of these pictures is a copy of an X-ray photograph from a patient, who had a bifurcation of the ureter. The case came into my hands about five months ago. The patient, a young man of excellent physique, twenty years of age, gave an almost negative X-ray.

He had nothing to complain of, except that two years ago he had a painless, but profuse, hematuria, which lasted over a week. After an interval of a year, another attack of hematuria occurred, lasting two weeks. Another one came on five days before I saw him, which lasted three days and then ceased. The cystoscopic inspection did not show any lesions, which would have pointed to a vesical or renal pathologic condition.

I catheterized both ureters and secured cloudy urine containing pus and microscopic blood from the left side, but perfectly normal urine from the right side.

In the functional test, which I made with phenol-*phthalein* at the same time, I secured practically equal values from both sides, except that I observed a rather early appearance—within three minutes—of the *phthalein*. A culture of the sediment of the cloudy urine was negative.

Repeating the examination after two weeks, I secured clear and perfectly normal urine from both sides. A subsequent X-ray examination under a simultaneous filling of both pelves with *argyrol* showed the bifurcation of the ureters.

It is clear, of course, that in the first examination I must have entered the diseased branch, while I got into the normal part of the kidney the second time.

I heartily coincide with what Dr. Sherrill has said in regard to the classification of these cases, which I have also avoided in my address, since primary or secondary tuberculosis of the kidney is still a debatable thing.

My address is particularly directed to the general practitioner, because it is he who sees these cases first as a rule, and because the further course of the disease and the ultimate fate of the patient rests in his hands.

About thirty years ago, when I was a young medical student in Vienna, one of our famous professors in surgery made the following remark:

If you are confronted with a diagnostically

very difficult and unclear case, it is advisable always to think first of tuberculosis, then of syphilis and last of all of malignancy but don't reverse the order.

ANNUAL ORATION.

REMARKS BY ARTHUR T. McCORMACK
IN PRESENTING DR. VICTOR
C. VAUGHAN.

A. T. McCORMACK: I want to ask permission to depart from the regular order for a moment or two in order to congratulate the people of Newport on the excellence of their citizenship as represented by the high character and standing of your representatives in the recent General Assembly of Kentucky, Honorable Webster Helm and the two members of the House, who represented you. Mr. Helm especially wrote his name as a leader in constructive statesmanship in our State Senate, and I want to congratulate you very heartily upon having such a man as your choice in Frankfort.

Coming to the purpose of this meeting this evening, it is only a few years ago that we who live in Kentucky thought of medical Newport as being a medical suburb of Cincinnati. The names of your physicians as individuals were known, but they had not then banded themselves into any other organization than as an attachment to the great Academy of Medicine of Cincinnati over across the river. It is a pleasure to-night and a matter of great pride to everybody who is familiar with the progress of recent years to be able to come to Newport and say to you, that your town stands as well on the medical map as Cincinnati does itself, and that the medical men of Newport are the peers of any other town in Kentucky, Louisville not excluded, and, considering the manner in which your physicians have worked and the sacrifices they have made to make themselves such a reputation, we know you will share with us physicians outside of Newport the pride we feel in their accomplishments. When the State Medical Association, composed of practically every representative physician in Kentucky, decided to meet in Newport, we wanted some means of showing to your citizenship our appreciation of your profession, and we felt we could do no better than by bringing before you someone who has exerted a marked influence on the profession and, at the same time, upon the people of the entire country, and who is held in the highest esteem throughout the world than to select a leader in the scholastic life of the nation, who has studied the practical things that have helped people to live longer and better lives, a man who has made it possible for armies to go forth and

fight and not die from the diseases to which they were formerly exposed; a man whose name is written very largely in the history of this nation, and thousands and thousands of people yet unborn will have to thank him that they have lived out their natural term of life, and for that reason we have invited the President of the American Medical Association to come here to-night to the City of Newport to discuss "The Eradication of Disease," and I have the honor and very distinguished pleasure, as well as personal privilege, of presenting to you Dr. Victor C. Vaughan, leader of the American medical profession, a leader of sanitation in this country, and the world to-day, and I am sure you will all profit by his words of wisdom, and if you will go away and do the things he tells you about, you will put Newport on the health map as well as the medical map, so that it will be a really large part of Kentucky. (Applause.)

THE ERADICATION OF DISEASE.*

By VICTOR C. VAUGHAN, Ann Arbor, Mich.
PRESIDENT OF AMERICAN MEDICAL ASSOCIATION.

In the fourteenth century, five hundred years ago, the black death swept over Europe, and in the short time of four years had killed one fourth of the inhabitants of that country. For three hundred years thereafter it broke out here and there whenever enough susceptible material occurred for it to feed upon. The last great epidemic of the bubonic plague was in 1665 in London. Shortly after this the city was burned. The fire purified it. It killed the rats which disseminated the plague, and the plague has been known no more among civilized people, although it is to-day threatening us at New Orleans.

After the plague small-pox and typhus fever kept a high death rate all over the civilized world. Macauley, the historian, states it was unusual two hundred years ago to meet upon the streets of London people whose faces were not marked by small-pox. A doctor in England, Jenner by name, having heard a current rumor that those who had had cow-pox were immune to small-pox, in 1796 inoculated a boy with cow-pox and subsequently inoculated him with small-pox. During the next five years Jenner and his assistants inoculated more than five thousand people with cow-pox and subsequently inoculated every one of them with small-pox, and no one of them developed the disease.

We talk about animal experimentation. In the early history of science experiments were great in their scope, and carried out not upon guinea pigs and rats, but upon human be-

ings. Vaccination for small-pox gave the world practically protection from this disease. The labors of John Howard in the prison, the alms house, and other places of crowded filth, gave relief from typhus fever, and in the next century the death rate in London fell to about fifty per thousand, but varied greatly with recurrent epidemics. During the last century the death rate has fallen until now it is about fourteen per thousand.

During the Middle Ages the average life of the human being was twenty years. Thirty years ago the average life was about thirty-three years. To-day the average life in the United States is fifty years (applause), and what is of more importance still, if the people of this country would put into practical application what the doctors who are now meeting in this city could tell them, the average life would soon be sixty-five years. Notwithstanding the great improvements that have been made, nearly eighty-five per cent. of the deaths that now occur are preventable.

In 1880 the first reliable census was taken in the United States. At that time the death rate in the registered area was practically twenty per thousand. In 1912 it was a little less than fourteen per thousand, and it is still too high. In 1880 of every one thousand people in the United States, fifty-four died every year of scarlet fever. The medical profession about that time awoke to the fact that scarlet fever was a contagious disease and began to isolate children with this disease. There is no other infectious disease which we have so nearly stamped out as scarlet fever, and this has been done by the intelligent co-operation of the public and the physician. Scarlet fever is a disease easily recognized, and now at its early appearance, or a suspicion of its appearance the mother isolates the child and sends for the doctor, and the result is that there are to-day in the United States only one-ninth of the deaths from scarlet fever that there were in 1880.

The deaths from diphtheria were not so markedly affected by isolation and disinfection; but in 1895 diphtheria antitoxin was discovered, and immediately upon its application the death rate from diphtheria fell. Older physicians will remember with what horror we recognized diphtheria in the eighties and the early nineties. In 1886, a doctor, one who was a doctor simply because he was the seventh son of a seventh son and had no medical education at all, in northern Michigan, reported to the State Board of Health there was an epidemic of a new disease in the village in which he practiced. I was sent by the State Board of Health to investigate this disease. The children in the public school, when one of them died, were dismissed for an hour; the

*Delivered before the Kentucky State Medical Association, Newport, September 22-25 1914.

corpse was brought into the school, the children formed in line, and each kissed the corpse, and it was diphtheria, and practically every child in that village died of the disease.

It was my good fortune to be present in one of the lecture rooms in the University of Budapest in 1894, when Roux announced the discovery of diphtheria antitoxin. There were assembled the most eminent sanitarians from every part of the world, and I saw what I had never seen before, I saw these great men stand on the seats and throw their hats to the ceiling and hurrah, and each one of us went to his respective home with a bottle of diphtheria antitoxin in his pocket, and to-day when this remedy is properly used on the first day of the appearance of the membrane in the throat, there are no deaths from diphtheria. (Applause.) When delay in its use extends to the second day, the death rate runs from five to ten per cent.; when it extends to the third or fourth day, it runs up to thirty, forty and even fifty per cent.

Tuberculosis, the great white plague, has been reduced in thirty years 54 per cent. in this country. If the death rate for tuberculosis which prevailed in 1901, had continued through the ten years following, there would have been two hundred thousand more deaths in the United States from this disease during that decennium than did occur. In other words, we have saved on an average during that ten years twenty thousand lives from that disease alone. A battle in which twenty thousand are slain stirs the world at the time, and fills the pages of history of the future. Preventive medicine measures its successes not by lives slain but by lives saved, and twenty thousand a year from one disease in one country is no small matter. (Applause.)

For a hundred years we dreaded yellow fever. It threatened our shores annually. It visited every now and then cities of the south. Do you remember the horrible epidemic at Memphis in 1878, at Decatur, Alabama, in 1888, and at New Orleans several times. Yellow fever was a great scourge to Cuba, and the brightest page to be written in our interference with the affairs of Cuba will not be the attack of Shafter on the land, or the victory of Sampson and Schley on the sea, but it will be the story of relieving the Pearl of the Antilles of yellow fever, the work of Reed and his helpers, a work which rendered the building of the Panama Canal a possibility. (Applause.) The statistician Hoffman states that the saving of lives from tuberculosis alone during ten years has added in the aggregate 6,200,000 years of life. Is this a work worth doing? Is it something in which we should be interested? A man of forty-five years of age to-day is younger, more

effective and capable of doing more than his father was at thirty, and, as I have stated, if we were to put into practice what we know, what has already been demonstrated in the prevention of the infectious diseases, the average of human life in this country could be easily increased fifteen years more. Think of it, fifteen years more added to the life of the average citizen in the United States—one hundred million citizens; one hundred million times fifteen years; one billion five hundred million of years in the aggregate is to be added to the life of this generation if the people would attempt to master everything pertaining to our national health.

It has been argued, and I have sometimes heard it said that disease is a good thing; that it carries off the people who ought to die, and that in the long run the race is the better. Let us say something about that. In order to benefit the race disease ought to kill before the time of maturity, before the time of reproduction. Therefore, this can be true only of the diseases which kill the children. Thirty years ago twenty-six per cent. of the children born in this country died before they reached five years of age. To-day about sixteen per cent. of the children born in this country die before they reach five years of age. What is the most potent cause? I cannot go into all causes, but what is the most potent cause of the high death rate among infants? I know of nothing which better illustrates the blundering, stupid way in which man progresses than to tell you how men found out why there is such a high death rate among infants. Of course, this has been long known to the medical profession. It has been long lamented. For a hundred years doctors fought to ascertain the causes of the high death rate among children. One doctor was quite sure that it was due to the east wind, because the east wind prevailed when he was busy among the babies. Another doctor for the same reason thought it was due to the west wind, and so it was attributed to the winds from every point of the compass. One man was sure that it was due to people living in the lowlands because his sick babies were found in this locality. Another man was quite sure that it was due to living upon highlands. One genius said it was due to spots on the sun. (Laughter.) I do not suppose there is any affliction to which flesh is heir, that somebody has not suggested that it was due to spots on the sun. If it were due to spots on the sun we could not wipe them out easily.

During the International Medical Congress in 1888, I read a paper in which I suggested that milk might be the cause of the high death rate among children. When I finished the paper an elderly man of international repute was called upon to discuss it, and after throw-

ing me some worthless compliments he proceeded to demolish it. He said, "The doctor spoke about milk hurting anybody. Have we not been drinking milk since the time of Adam? The high death rate among children is due to the use of the baby perambulator. Since perambulators came into use the death rate has increased." And when I was called upon to close the discussion I said I was willing to withdraw any statement about milk, and that no one could deny that in this country at least the deaths among children had increased since baby buggies had come into use. I thought my friend had the wrong cause and I suggested it was the carrying of umbrellas. We do that more frequently than our ancestors did. Now we know that the real cause of the high death rate among infants is poisonous milk. We know that dirty milk, milk containing bacteria, under high temperature, such as prevails in our summer months, produces in milk poisons that are quite as deadly as arsenic or strychnia, and whether the child lives or not depends upon the intelligence of the woman who feeds it. These poisons are generated by bacteria in milk, and will kill good children, just as well as bad children, healthy and strong children, just as well as weak and feeble children.

Talk about disease weeding out the unfit, there is just as much sense in this as there would be for you to collect all the inhabitants of Newport, march them in great numbers up and down the streets, place blindfolded men at the intersections of all streets with repeating rifle, and tell them to shoot into the crowd as it went by. Do you suppose they would kill only those who ought to be killed? Do you suppose the worthless, the thieves, the liars, and vagabonds would be the only ones to fall? Disease, like war, kills the strong and vigorous, those best fitted to live.

When we began to study typhoid fever in the American army in 1890, my colleagues and I had that old idea that we would find typhoid fever was most prevalent among those who were the least healthy, and for that reason we determined to make a careful study of the previous record of every case of typhoid fever. Of course, in the army that was easy to do because we had the records, especially of the regular soldiers, sometimes running back for years, and what did we find? We found that of six thousand men who might be called below par in health, the per cent. of typhoid fever was about seven. Among forty thousand soldiers who were never sick before in their lives the death rate was eighteen per thousand, and among the men who died from typhoid fever over eighty per cent. of them were never sick before in their lives. The explanation of this is perfectly plain. More men have typhoid fever than women,

more adults than children, and why? Because the range of man's activity on the average is wider than that of woman. He goes here and there, up and down the country, drinking all kinds of water, while the average woman stays at home where the water is looked after. Then, out of one hundred cases of typhoid fever among the robust and vigorous, and one hundred cases among the comparatively weakened people, the death rate will be higher among the strong and robust, because in our combat with disease, the stronger and more vigorous the man, the greater the fight he puts up with the disease, and it is this that kills him. A strong man either gets well of an infectious disease in a short time or he dies very speedily.

Another very important thing about the infectious diseases is this: Wherever epidemics prevail lawlessness prevails. The great historian Niebuhr says, there has never been any marked deterioration in morals except as the result of disease. The testimony of all writers both lay and clerical upon this subject is to the same point. Fathers in the Catholic church, time after time, have written that in the face of epidemic, man, instead of having turned to God, has turned to despair. He gives himself to all kinds of licentiousness and wickedness. And the same is true to-day.

In 1888 there was an epidemic of yellow fever at Decatur, Alabama. Decatur is a small town with about 2,500 or 3,000 inhabitants on the Louisville and Nashville railroad. As soon as the epidemic appeared at Decatur the then health officer of Alabama, the late Dr. Jerome Cochran, went to that city to do all that he could to care for the sick and stamp out the disease. The Mayor of Decatur, through the Associated Press, asked that help, food and clothing be sent to Decatur. Dr. Cochran through the same avenue asked that this be not done and why? Because when the first trainload of provisions and clothing went into Decatur its population multiplied several times. Every worthless character in Tennessee, Georgia and Alabama flocked to Decatur to become the recipients of these gifts. The very thing that the health authorities desired to prevent was brought to pass. We find lawless people, worthless people, always taking advantage of every epidemic that occurs.

Now, my friends, I am not going to spend the whole evening in telling you about the past. Let us look at the present. Let us turn our faces toward the future. Let us get down to the practical facts; let us come right home. What is the death rate in Kentucky? What are you doing here and what should you do? To lessen the death rate and to prolong life. Of all the states in the registered area of the

United States the death rate from tuberculosis is highest in Kentucky. There is a map which we sometimes use, where the different states are shaded according to the death rate from tuberculosis, and the blackest state on that map is Kentucky. Your death rate from typhoid fever is twice the average death rate in the registered area in the United States—forty-five per one hundred thousand, when the average in the registered area is about twenty-two. We ought to do something, ought we not? This is not complimentary to your state, is it? Kentucky is doing something. Kentucky is doing great work. It is getting started, and you want to see that it moves along as it should move. You have one of the most efficient State boards of health in all of the states. You have one of the best organized and most intelligent medical societies in all the states. Your state authorities have in the last two or three years examined the excreta from three hundred thousand people; one-third of those have been found to be infected with hook-worm, and one-half with some intestinal parasite. This is a great work. It is a grand work. You have introduced into the last session of your Legislature a bill providing for a full-time health officer in every county in the state. It passed the House. In Michigan we had such a bill introduced and it never got out of the committee. It never went before either House, but in Kentucky it passed the House. Of course, there are certain extenuating circumstances about the wide prevalence of tuberculosis in Kentucky. It is largely due to the colored population crowded in your cities and living under the most unsanitary conditions. But remember, that bacilli from colored men are just as infectious as they are from a white man, and they do not kill only the darkies, and besides you want to save the darkies, too. You want to be up and doing. What are we going to do all over this country to prolong life, to make people more healthy, because health is a relative term, and to increase the efficiency of all?

Dr. McCormack has told you that the earning capacity of these people who have been treated for hook-worm diseases has on the average increased threefold since they have been treated; that is to say, the man who was producing a dollar a day is now producing three dollars a day. See to it that the men who go to your Legislature pledge themselves to look after the best interests of your citizens. (Applause.) The health of its citizens is the most valuable asset of any state. It is something which deserves the attention, the earnest attention of everybody who is interested in the progress of the race, and God pity the man or woman who is not. No one of us can solve the great riddle of the universe; no

one of us can name the place from which we came; no one can name the country to which we shall journey, but we do know that man's highest service is to his fellow man.

A story is told in the long, long ago of a Prince of India. The son looked forward to commanding his armies, to ruling his empire, and the daughter went one day into the temple and prostrated herself before the image of her god. She asked what she could do. She lay prone upon the floor; she felt upon her shoulder a touch like that of a child. She was commanded to rise, and as she stood an angel appeared to her and said: "Wouldst thou serve thy God?" "Such is my desire," she replied. "Then go forth and serve thy fellowman." That is the highest service that comes to anyone, and what higher service can we render than in preventing disease and death? We want in each county in this state and in every state a full-time health officer who shall make it his business, and his sole business to find every case of disease, the conditions under which that disease originated, and be able to stamp out the cause of the disease. In this great work women must play a very important part. This health officer must be assisted by sanitary inspectors, most of whom must be women, who can go into the home and find out what the trouble is. To those who are in poverty she will carry material aid; to those who are ignorant, she will carry the light of knowledge; to those who are vicious, she will direct the hands of the law.

I do not know how it is here in Newport, but in the beautiful town in which I live, a place of not more than twenty thousand inhabitants, a village beneath the shadow of the great university, where six thousand students spend from four to six years in getting an education, I know in that town, under the shadow of the university buildings, there are homes where it is just as impossible for children to grow into healthy citizenship as it is for oranges to grow at the North Pole. Now, are there such places here? Are there homes where vice breeds? Are there homes where king alcohol reigns? Are there slums, are there places of viciousness? Remember, that no tree can continue healthy and be able to bear good fruit so long as some of its roots are diseased. It is national health that we want. This problem is a community problem. It is no more the business of the physician to eradicate disease than it is the merchant, the lawyer, the tailor, and the man in any position. It is the duty of the physician knowing how diseases originate and how they spread, to point out the way in which they can be eradicated, and the physicians of this country are doing it.

I represent the American medical profes-

sion and the American Medical Association, made up of some fifty thousand doctors in this country. Each doctor belonging to the Association pays five dollars a year. We publish the *Journal of the American Medical Association*; we get some profit from the advertising, and we are spending twenty thousand dollars a year trying to teach people how not to be sick. (Applause.) Some years ago we had a governor of Michigan who said, in welcoming the American Public Health Association at a meeting, held in Detroit, after referring to the fact that these men had left their occupations and had come from long distances to consult together how to prevent disease: "If during my official career I should be called upon to preside at a gathering of lawyers, met for the purpose of preventing litigation, then I would say with Simeon of old, "Let thy servants depart in peace, for mine eyes have seen thy salvation." (Laughter.) When I tell an audience that the medical profession of this country is spending thousands of dollars a year in trying to teach people how not to be ill, generally a smile of credulity goes around. They think there must be something hidden. There is no greater mistake in the world than that money is the strongest incentive to action. Any good lawyer will prevent litigation if he can. Any good doctor will prevent disease if he can, and did you ever think that every physician who practices medicine in Newport or anywhere else renders the public a service many times greater than that which he renders his patient. When one of your doctors treats a case of scarlet fever or diphtheria, or any other communicable diseases, he does the best he possibly can for that patient. He prevents the spread of the disease; he protects you; he protects the other citizens. The average number of cases of scarlet fever from one case unwatched by a physician is about fifteen, closely watched by a physician the average is less than two. That being the case, to-day every conscientious doctor is rendering the public a service for which he gets no pay, demands none, and which is not recognized. If medicine is to render its highest service to man, the time must come when every citizen will be examined once or twice a year, not to cure them of ills already established, but to prevent illness, and this examination will be as thorough as that now made for the highest life insurance. The man who is ill, if he has an infectious disease, will have his illness so guarded that it will be of no danger to anyone. The man who is ill of a disease which affects himself only will have the best possible treatment. If he is able to pay for it, he may choose his doctor and pay for it. If he is not able to pay for it the state will see that he has as good service as

the wealthy man. The community, the state the nation is a collection of people for mutual benefit. The infirmities that come to individuals rest heavily upon them, but scarcely less heavily upon the community. The time must come when the state will send its sanitary inspectors as often as may be necessary into every home. Disease and crime will be found in their breeding places; these will be disinfected, and the time will come when the superman, the betterman, the man whose highest service is in helping his fellowman, will come into his own. Will it be our nation which will develop this better man? It seems hardly credible that the great civilizations of Europe are to-day plunged into a barbarous war; but this has thrown upon the people of these United States a greater responsibility. Is civilization to lapse and the nations again to fall into ignorance and barbarism? To-day the United States of America is the only great nation not in danger. Can we demonstrate that war is unnecessary? I was reading only yesterday the production of a great Frenchman who studied the way in which Europe is living now, and I may say that this great Frenchman died three or four years ago. He said there must be one of two things, civil war among the different nations, or international war. We are not taking care of the health of the people.

Now, my friends, I have talked too long, but there is just one thing that I cannot refrain from mentioning. The curse of the venereal diseases hangs heavily upon us; the curse of feeble-mindedness hangs heavily upon us. While the great things I have mentioned have been done in combating the infectious diseases, there is to-day, so far as we can learn, about one in every five hundred persons who is defective mentally, and at the rate at which defectives are multiplying, in 1970 there will be one out of two hundred and fifty feeble-minded. The number will be doubled. I am not a pessimist; I am an optimist. I hope to be killed off if I ever become a pessimist, but if we are going to cure disease we must know where the disease lies. Are we going to pay no attention to these things? Are we to be so delicate that we cannot talk about them—the venereal diseases, or shall we treat them as we treat scarlet fever and diphtheria, isolate every case until it is well, treat them as we treat small-pox? What would you think of a city that took small-pox and gave one part of the city over to it, and say, "Everybody can have small-pox that wants to live there." What are the cities doing with regard to prostitution and vice? The same thing. As long as these conditions exist we cannot help to grow into that state of health from which the better man will result.

There is no higher duty devolving upon us today than to look after the health of our citizens.

I thank you. (Loud applause.)

SYMPOSIUM ON RHEUMATISM

THE ETIOLOGY OF RHEUMATISM.*

BY J. M. SALMON, ASHLAND.

Acute articular rheumatism is an infectious disease caused by an infective agent as yet unknown. Since 1887, when Mantle obtained a micrococcus from the fluid of the joints and from the blood of rheumatic patients, numerous investigators have endeavored to ascertain the specific germ or germs of this disease. Staphylococci, streptococci and various other organisms have been found and described. Animal inoculation with these organisms obtained from the joint fluid, blood, throat and endocardial vegetations have resulted in the development of lesions of the joints and endocardium very similar to these of acute rheumatic fever.

It is unnecessary to make more than passing mention of the work of Poynton and Payne, Beattie, Walker, Riva and Meyer. The latter first demonstrated that the streptococci of rheumatic tonsillitis produce arthritis and pericarditis of the rheumatic type in rabbits. Tunnicliff's work on the opsonic index indicates the streptococcal nature of acute rheumatism and the animal experiments of Coombs, Jackson and Rosenow have demonstrated to the satisfaction of many authorities that one or more of the various strains of streptococci constitute the specific infective agents of this disease. Rosenow, by a special technique based upon the maintenance of proper oxygen tension in the culture media, succeeded in isolating pure cultures of streptococci from the joints of sixteen out of nineteen non-fatal, uncomplicated cases of acute rheumatic fever, and also from the blood in five out of eight such cases.

Inoculation of rabbits with these pure cultures was followed by endocarditis, myocarditis and arthritis. Moreover, these experiments demonstrated an affinity on the part of the organisms for the special tissues involved in the cases from which they had been obtained. There are probably many points of entrance for the organisms of rheumatism. That rheumatic attacks are commonly preceded by tonsillitis has long been known. It is established also that the removal of the tonsils is often followed by complete freedom from rheuma-

tism in patients who had previously been great sufferers from the malady.

Other infectious diseases, e. g., meningitis and scarlet fever are often followed by so-called secondary rheumatism, but it is doubtful whether the arthritis in these cases is due to the specific germ of rheumatism or the germs which cause the primary infection.

Rheumatism, like other infectious diseases, often occurs epidemically. In localities where it is almost always prevalent it may entirely disappear for a time. On the other hand, there may suddenly be a marked increase in the number of cases.

In temperate and moist climates the disease seems to be especially prevalent. The British Isles have seemed to possess the most favorable conditions for rheumatism, but it is found generally throughout the temperate zone and is about equally prevalent in Canada and Egypt. The greatest number of cases occur in the winter months, but occasionally epidemics have been observed in mid-summer. The statistics of most large hospitals show admission of nearly sixty per cent. of cases of rheumatism during the first four months of the year. Rheumatism is a disease of young adults, eighty per cent. occurring between the twentieth and fortieth years (Whipham). It is rare before the fifth year, but has occurred in sucklings. Strumpel mentions the case of a child which died when only a few days old and the autopsy showed a multiple purulent arthritis. The mother, at the time of the child's birth, was suffering from a severe attack of acute rheumatism.

Males and females are about equally affected, although before the age of twenty the females predominate.

Whipham's Report for the Collective Investigation Committee of the British Medical Association gives 375 males and 279 females.

The influence of heredity is doubtful. Church does not believe that heredity has anything to do with the causation of rheumatism.

There is an apparent tendency toward family epidemics, a fact which may argue for the contagiousness of the disease.

One attack does not confer immunity; on the contrary, it predisposes to other attacks.

Exposure to cold has long been considered an etiologic factor and the prevalence of the disease in those whose occupations expose them to the elements favors this view.

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PROPHYLAXIS AND TREATMENT OF ACUTE RHEUMATIC FEVER.*

By G. G. THORNTON, Lebanon.

Your essayist feels that if it were possible for him to clear up all of the unknown pertaining to this subject, even though the paper might be short, it would be quite interesting. He will now, however, assure you that it will be short anyway, which, if not interesting will be of some consolation to you. He will further say that he feels utterly inadequate to fill the place and task assigned him by the program committee.

With the meager matter that is already known to you all, he feels that if he could dismiss the subject as the school-boy did his composition for Friday afternoon exercises he would be relieved. The teacher had given him a subject on which to write that did not appeal to his taste in composition and he wrote, "Ladies and gentlemen, I know nothing about this subject, I care nothing about this subject, therefore I'll say nothing about this subject." Your essayist cannot consistently take this position, however little he knows that is new to this body of medical men, because he does care something about it.

In any battle, it is necessary to know the enemy, to know where he is located, to know his method of attack if possible, that we may be the better prepared to repulse that attack if we can and if not, that we may at least not be compelled to surrender.

This enemy has been defined by one as, an infectious disease, which manifests itself by its tendency to involve the joints and serous membranes elsewhere; by another as an acute febrile disease, associated with more or less profuse acid sweats and characterized by an exudative non-suppurative inflammation of the joints and a peculiar tendency to secondary involvement of the endocardium, pericardium and heart muscle; by another as an acute non-contagious fever, dependent upon an unknown infective agent, and characterized by multiple arthritis and a tendency to inflammation of the fibrous tissues.

With these definitions of the disease clearly before us with its etiology as given by the preceding essayist the means to be used in its prophylaxis would naturally be the avoiding of the infection so far as that is possible, which at present is about like the boy putting salt on the bird's tail in order to catch it.

In persons who have always been free from this disease, advice along this line prior to the first attack would be of little worth, but to those who have experienced one attack, who

are naturally more prone to suffer from it in the future, it might be of immense value. It is entirely possible that all of us are exposed to the dangers of this infective agent often and that the only reason we do not suffer from it, is because of a systemic immunity, or because its portals of entry are too well guarded, or, possibly because the portals are closed by vigilant and healthy organs. At present the tonsils are regarded as being one of the avenues of entry and they might always be looked after, and if not in a perfectly normal condition might be treated, or if giving much trouble of themselves, or if much hypertrophied might be removed, thus doing away with this source of danger entirely. The patient who has had an attack (and it would certainly be useless to suggest anything about it to others) should be informed about the dangers of recurrences, and should be instructed as to their diet, as to imprudence in eating, as to the importance of keeping the bowels open as to avoiding excesses of all kinds, as to dangers arising from getting hot and sudden chilling of the body, or anything which might lower the vital resistance to any infection.

It may very properly be questioned whether any particular diet would predispose to the disease or have any tendency to prevent it, but surely over-eating, or irregular eating, or eating things which disagree with the patient, might in a way act as an inviting cause, at least.

By avoiding certain occupations, which necessarily expose one to dangers of becoming over heated and then cooling off suddenly, or expose them to sudden changes in the weather, or to risk the inclemencies of the weather without due protection, some risk might be avoided.

The clothing should be of such a character as to protect the body from sudden chilling, but I am sure there are few who will agree with an old professor of mine who said that if the rheumatic would persist in taking off his flannel he should not do so before July 1, and should put it on again July 2.

In spite of all precautions taken by the most cautious of those who are susceptible to this infection, some patients will suffer from recurrences of this disease. Those who have not a natural immunity to it can have little assurance that they will not have a recurrence.

TREATMENT.

In presenting the subject of treatment for this disease it will hardly be necessary to mention the large well-ventilated room, free from noise and disturbances, and the kind of bed and the trained nurse, which have been so often mentioned by all writers on all medical subjects, that they have become actual indis-

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pensable necessities, which often have to be dispensed with, in a general practice. Not that these things are not necessary and useful measures to have and use, but that it seems unnecessary to cover the ground which is so thoroughly covered by text books.

As regards diet, in this as in the beginning of all acute diseases, if the patient is not hungry, and generally he is not, he should abstain from all food until his appetite calls for something. There can be little doubt that in the patient with a high temperature, or with any temperature above normal, where the patient not only has no appetite, but where food is actually repulsive to him, where the powers for digestion are impaired, or actually out of commission, with a disposition to continually urge the patient to stuff by the friends often backed up by the doctor, this kind of feeding which might properly be called over-feeding, is productive of much more harm than good in all kinds of acute febrile conditions. If the patient is hungry there can be no good reasons for not allowing an amount of easily digested food in quantities sufficient to satisfy actual hunger. Food which is thoroughly digested and assimilated, does good, but where it fails to digest and undergoes fermentation, does no good and some harm by the absorption of the products unsuitable for use in the economy. In acute sickness where nature withdraws the appetite, she does it as a wise provision and it is one to which the medical profession should have regard.

The patient craves cold water, and it should be given to the capacity of the stomach to retain and absorb. To some extent it always thirsts, acts as a diuretic and diaphoretic and promotes elimination.

The bowels should be kept open without excessive purgation. The patient's limbs should be placed in as comfortable a position as possible, with pillows under the knees and arms or wherever they may seem to give comfort. Plaster of Paris bandages and splints might have a place in a hospital, but are seldom used in private practice. Hot applications in the form of turpentine stupes, hot-water bottles, or hot liniments afford some comfort and do some good, besides they serve to keep the friends and nurse busy and better satisfied that something is being done. The faith which some of the laity have in liniments is almost marvelous, though occasionally they will express a fear that the applications will drive the rheumatism to the heart.

Mesotan has been recommended (possibly mostly by its promoters) to be rubbed in over the affected joints, on the theory that the salicylic compound contained therein would be absorbed and go directly to the synovial membrane involved. This theory is hardly ten-

able from the fact that the synovial membrane is not in contiguity with the subcuticular tissues, and therefore any substance passing through the skin would have to be taken up by the blood, or lymphatics and have to pass through them in order to reach the parts involved. Whatever good it does other than as a counter-irritant must, therefore, be done as a systemic remedy. Its usefulness is surely very slight.

Sodium salicylate, whether made from the synthetic salicylic acid or from that made from the oil of wintergreen, can be relied on if given in 10 to 15 grain doses from 2 to 4 hours apart till the prominent symptoms are mitigated or till some unpleasant effects from the medicine are experienced. It has been thought that the sodium salicylate made from the synthetic acid is more inclined to disagree with the stomach, but this effect is very doubtful. Both preparations are very much inclined when pressed to upset the stomach. After pain and swelling have subsided it can be given in smaller doses and farther apart, still aiming to shield the stomach all that can be and keeping the system under the influence of the medicine till all danger of a recrudescence has passed.

Should the stomach rebel at the sodium salt, acid-acetylo-salicylate (Asperin) can be given in 8 to 10 grain doses 2 hours apart till better and then less often as with the sodium salicylate. Should this have unpleasant effect as it will frequently do diplosal can be given in the same size doses and repeated the same way with possibly as good effect and with much less disturbance of the stomach. These drugs are very dependable and can be changed one for the other and by giving the sodium in solution well diluted and the others in capsules followed with half a glass or more of water their bad effects on the stomach may be mitigated that they may be used to the extent the case requires.

Recently Dr. Louis G. Heyn, of Cincinnati, (in *Journal A. M. A.*, Sept. 1914) reports 125 joints affections (which I infer were rheumatic) treated by the use of Sodium Salicylate by the rectum, thereby relieving the stomach of the disagreeable effects which it often has. He declares that it is quickly absorbed, and that it can be given in from Zii. to Ziiss, every 12 hours till its effect is observed and then in smaller doses and continued as if given by the mouth. This method of introducing the medicament into the system can be used in general practice as efficiently as in hospital practice, and in cases where the stomach rebels, it might be the most effective procedure that could be pursued. It would be well to bear this idea in mind and use it before giving the stomach too severe a trying out.

Should these well known and thoroughly tried means not give satisfaction after a fair trial, a trial of the phylacogens might be in order. Since they have been brought out, however, the experience of your essayist has been so entirely satisfactory with the other drugs mentioned that he has not felt the need of them, hence has not tried them and therefore can not speak of their merits.

In treating this disease the complications, peri-carditis, endocarditis, myoearditis, and meningitis should be looked for although there is little to be done in the way of preventing them except by skillfully managing the original disease and bringing about a speedy recovery and thus lessening the chances of complications.

One other matter that may need attention in this trouble is to see that the patient gets a proper amount of sleep,—natural sleep if possible, but if not, sleep produced by hypnotics. To secure sleep the pain must be relieved and if the agents mentioned have not done this then give from 10 to 15 minims of *Deod. Tr. Opii.* with 15 to 20 grains of chloral hydrate and repeat in half dose in one and two hours if needed, always beginning at ordinary bed time or any time during the night after when indicated.

Chronic Pulmonary Tuberculosis in Childhood.

—The point Riviere puts forward as something new is the fact, hitherto unrecorded, that inter-seapular impairment as an early sign of tuberculosis of tracheobronchial glands occurs on the right side only. Evidence is collecting to point to pressure on the right pulmonary artery in which it passes in front of the bifurcation glands as the causation of these right-sided signs. The bifurcation glands are those most commonly tuberculous of all the thoracic group; they show the most extreme changes, and hence are probably the first to suffer. Hence a sign which depends on enlargement of the bifurcation glands, if subsequent research confirms this, must be of considerable value in the diagnosis of tuberculous disease in the chest.

It is an increase in size and in dulness of this area on the right side which constitutes the sign. The normal impairment becomes more marked, being often sufficient to be termed "dulness," and extends out 2 or 3 inches from the middle line. The area extends downward to the sixth, seventh, or even the eighth dorsal spine while its outer limit, mapped by percussion from without inward, forms a well-defined curved line, though the note outside it is sometimes not so good as that over corresponding parts of the opposite lung. It is interesting and important that this clear outer limit can be shown to undergo a distinct respiratory fluctuation during deep breathing.

OBSCURE RHEUMATISM IN CHILDHOOD.*

By S. P. GARRISON, Bellevue.

Rheumatism as it affects children, produces a symptom complex, differing entirely from that seen in the adult.

It is a rather rare condition under two years of age, although not so rare as was formerly supposed, occurring with greater frequency after the age of six.

The early manifestations of the disease are very obscure, if one is expecting to find adult symptoms, and for this reason the disease was, until quite recently, supposed to be a very rare one in early life; but since a deeper and more thorough study of the subject has been made and its peculiarities have become better understood we find that it constitutes quite a fair percentage of the diseases of childhood.

In England it is said that about eight (8) per cent. of the children are affected with rheumatism, while in the United States the percentage is not quite so high.

If one has in mind only the adult type of articular rheumatism, with all of its well defined symptoms, especially articular symptoms, he will be sure to overlook many of the earlier manifestations of the disease in the child.

The early symptoms of this disease being so obscure, are difficult to detect, and are so slow and insidious in their onset and so progressive in character, that a well defined case may present itself before it has produced any particular discomfort in the child or before the attention of the parent has been called to it, and it is not unusual for the trouble to be discovered accidentally. Children, as a rule, are not complainers, and this is probably another reason why the early symptoms are so frequently overlooked.

You may ask, why is it necessary to pay such attention to a disease which produces so little discomfort to the patient. But when it is remembered that in over ninety (90) per cent. of children with rheumatism the heart is the organ which suffers most, the answer is self-evident. If we wish to conserve the adult heart, we must watch carefully and treat accordingly these early manifestations of the disease in children. In presenting the symptoms of this disease it will be necessary to very briefly mention some of the most important and prominent symptoms as they occur

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in the adult, in order that by contrast the symptoms in childhood may be presented more forcibly.

In the adult a typical attack comes on with a chill, high fever, profuse acid perspiration and pronounced articular symptoms, while in the child, the onset is slow, patient has only a slight fever, no perspiration and very little if any swelling, pain or redness of the joints.

The symptoms on the part of the joints are usually not severe enough to keep the patient in bed and unless the lower extremities are involved will not even keep him from walking.

These mild cases may recover in from two to four weeks even without treatment or without a diagnosis having been made, but one attack predisposes to another and in a subsequent attack the heart is almost sure to be involved.

Every practitioner has at times heard parents speak of their child having "growing pains." They seem to consider it a necessary part in the development of the child; and quite frequently have we neglected not only to advise the parents to the contrary and to enforce on their minds that no such thing as "growing pains" exists; but also to study into the cause of those pains to see whether or not they were manifestations of rheumatism.

Arthritis is not an early symptom in the child, for when it occurs sufficiently to attract the attention of the patient or their parents, it means that the disease has made considerable advancement and at that stage the parents will bring the child with the diagnosis already made.

There are, of course, some cases where the soreness and stiffness about the joint and the muscular spasm are so severe that the patient absolutely refuses to walk, but such is the exception and not the rule. These are sometimes mistaken for incipient tuberculosis of the joint.

Ordinary "stiff neck," especially when associated with or accompanied by sore throat or tonsillitis, and no marked cervical adenitis, is frequently an early manifestation of rheumatism and should be carefully watched and treated as such.

The relation which pharyngitis and tonsillitis bears to rheumatism has been the source of much discussion; but in many cases the relation is certainly a close one and children who are subject to frequent attacks of sore throat should be regarded as probably rheumatic and watched carefully for other manifestations of the disease. Most authorities consider that the tonsils are the structures through which the rheumatic poison is absorbed, although the nose and gastro intestinal

tract may sometimes be the portal of infection.

Various forms of skin eruptions may occur in connection with rheumatism. An erythema, rather transient in character and located near the larger joints may occur. A rheumatic purpura is rare. One observer has noted a pin point eruption about the hands and feet, which later develops into small vesicles, and then desquamates. The patient may complain of considerable itching with this eruption.

An anaemia is a rather constant symptom in rheumatic patients both during and between attacks. The effect of the rheumatism upon the blood is said to resemble that of malaria. In severe cases of anemia, when we detect a cardiac murmur, it may be difficult to determine whether it is a "haemic" murmur or one due to endocarditis.

Another condition coincident with other rheumatic manifestations was first noted in 1881 and described as "subcutaneous tendinous nodules." These consist of oval semi-transparent, fibrous nodules, occurring most frequently at the back of the elbow, over the malleoli or at the margin of the patella. These nodules are better felt than seen and are not of very frequent occurrence in this country.

That there is a very close relationship between chorea and rheumatism, most authors are agreed. In some cases it is one of the first manifestations of rheumatism, the articular symptoms soon following, or perhaps endocarditis without joint symptoms.

Holt has found that in fifty-six (56) per cent. of his cases, chorea and rheumatism were associated, but in that classification he did not include his cases of endocarditis without joint symptoms. In analyzing some three hundred cases, Fraser found a personal or family history of rheumatism in ninety (90) per cent. and he goes so far as to state that in his opinion all cases of chorea are of rheumatic origin.

To be on the safe side, the physician, when dealing with cases of chorea should always be on the lookout for other symptoms of rheumatism.

The rheumatic toxin seems to exert its influence on the unstable nervous system of the child rather early. One of the first symptoms may be simply an unusual irritability of the child, they then become nervous, easily frightened, jerking and starting in their sleep and if not treated, the contraction of the voluntary muscles occur and other symptoms of chorea or rheumatism soon follow.

An early and very important symptom of rheumatism is the presence of fever, not high as in the adult, but a low fever perhaps not going above 100 1-2 or 101 and usually reach-

ing normal in the morning. This fever sometimes called the "mysterious fever" may be the only symptom present for some time and may only be detected accidentally.

The presence of this slight fever with possibly a slight acceleration of pulse makes one suspicious of a beginning tubercular infection.

As the patient does not consider himself sick enough to be confined to his bed, it is with difficulty that he is controlled and while the attack may subside without any apparent bad results, still in many cases it is not long until the patient is complaining of dyspnoea upon exertion and a careful examination will reveal a badly damaged heart.

The most important manifestation of rheumatism from a prognostic point of view is on the part of the heart. The endocardium, myocardium or pericardium may each or all become involved.

The high percentage of cardiac involvement as given by some authorities may be accounted for, because of the greater susceptibility of the heart to inflammatory changes in the youth, and also to the fact that many cases of a mild type which do not affect the heart are entirely overlooked.

The mode of onset of cardiac affections in the child, differs very materially from that in the adult. In the adult with acute articular rheumatism we are watching and almost expecting the heart to become involved, but in the child the onset is very insidious and the first symptom noted may be a severe endocarditis. This peculiarity of rheumatism in the child constitutes one of the greatest dangers of valvular disease in the young.

Upon physical examination, it may be very difficult to detect, in the early stages, any involvement of the endocardium. The first reliable symptom is a change in the rate in rhythm of the pulse. It becomes more rapid and slightly irregular, followed sooner or later by the typical murmur or thrill.

Authorities are not all agreed, as to whether the endocardium or myocardium is first involved, but in either case, the first symptom noted is the same, the change in rate or rhythm of the pulse.

The heart muscle becomes soft and flabby, due to inflammatory and degenerative changes.

The strong susceptibility of serous cavities to inflammatory processes in children makes pericarditis a rather frequent effect of rheumatism and for this reason it is seen more frequently in children than in adults.

It is frequently associated with endocarditis, its presence being made manifest in acute cases by the existence of pain, although in subacute cases the patient may not complain of any pain.

When pericarditis is associated with endocarditis it usually renders the course of the disease more severe and makes the immediate as well as the remote outlook for recovery more doubtful.

The most characteristic form of pericarditis, when it does occur, is the subacute dry, fibrous form, which results in considerable thickening and extensive adhesions, and sometimes in complete obliteration of the pericardial sac.

As can be readily seen from the symptoms described and from the fact that these symptoms are more diffused in the child than in the adult, it is frequently most difficult to make an early diagnosis of rheumatism in the child, and no one symptom can be depended on to make such a diagnosis.

In determining whether or not a given set of symptoms indicates rheumatism, Holt says we should consider (1) family history, since in early life, heredity is so important an etiological factor;

(2). Previous history of patient: not only as regards the articular pains and swellings; the slight joint stiffness without swelling; the indefinite wandering pains of damp weather and the so-called growing pains but also the previous existence of chorea, frequent attacks of tonsillitis, torticollis or erythema.

(3). A careful examination of the patient, which should include an examination for tendinous nodules; the temperature and a careful examination of the heart.

So let us be more careful in the future, not to overlook this most serious disease; treat the cases of sore-throat which come to us, radically, if necessary, by removal of diseased tonsils and adenoids: do not pass by the child with the so-called growing pains especially if associated with an unaccountable fever and examine carefully and frequently the heart and we will be able not only to save life but to prevent many a patient from becoming an invalid from chronic valvular disease.

Improved Technic for Electrocardiography.—

With the ordinary technic one never knows from what part of the heart the electric current is proceeding, and hence it is impossible to obtain records under exactly similar conditions for comparison with other cases or even with other records of the same organ. Mayer says that he has overcome this difficulty by taking the record as the patient reclines in a zinc tub filled to a certain mark with water. The volume of the body plus the water is thus always the same, and the area of condition is so large and so far from the heart that minor differences become equalized.

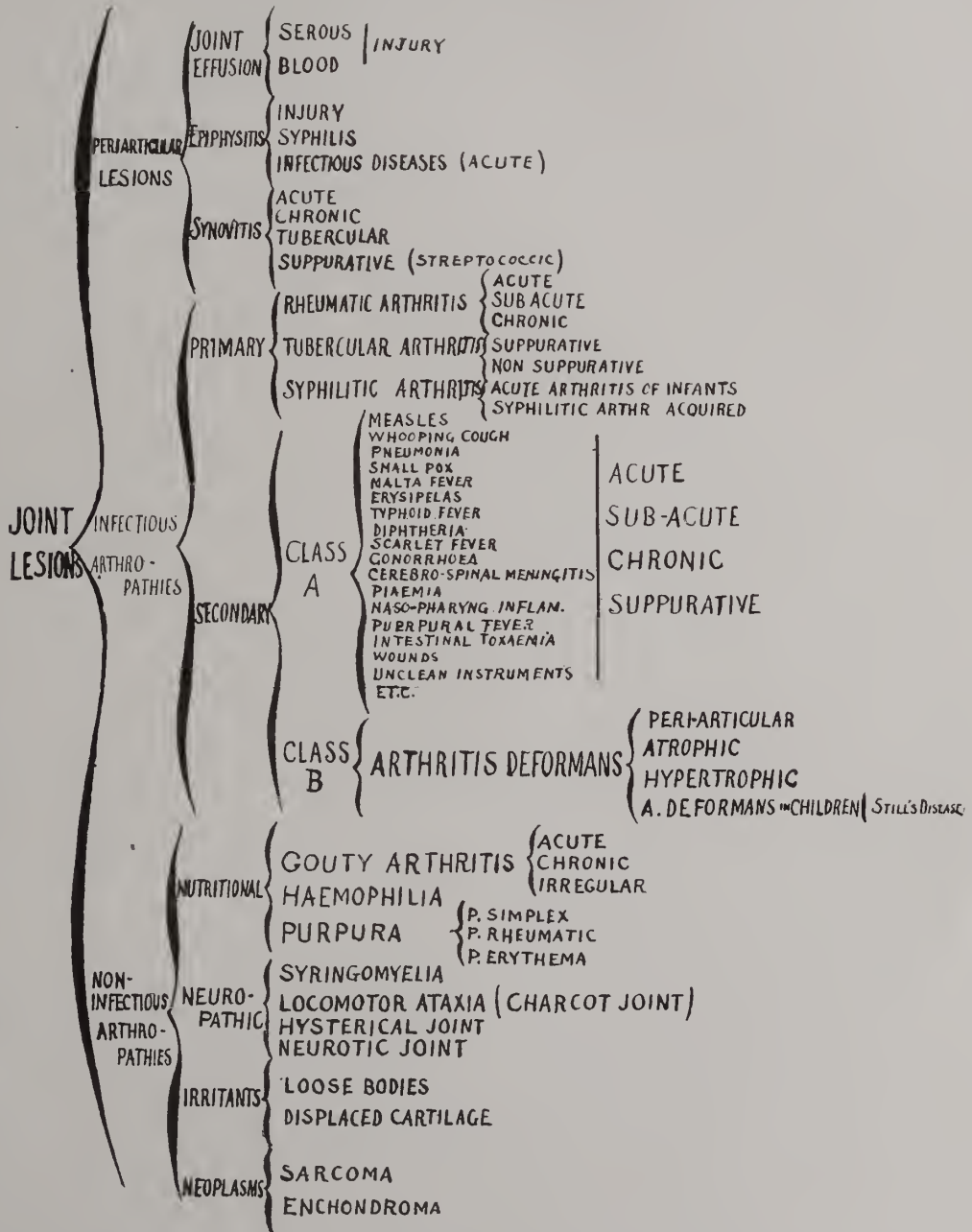
CLASSIFICATION OF JOINT LESIONS.*

By W. J. GERDING, Newport.

As we are gradually emerging from darkness into daylight, conceptions in medicine are constantly becoming clearer, therefore it

ments, thanks to bacteriologists and actinographers, will, under the new order of things, also require revision, even though much still remain to be known in regard to many of the conditions.

However unsatisfactory our present classi-



becomes imperative for us to change our perspective, and by so doing, we must re-arrange or re-adjust our ideas in regard to disease and diseased conditions.

The arthropathies, due to recent evolve-

ment, thanks to bacteriologists and actinographers, will, under the new order of things, also require revision, even though much still remain to be known in regard to many of the conditions.

The fact, that in our practice we see many patients with joint lesions, and that heretofore those that were thought to be simple in

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character are really complex, while those that seemed disparate are now known to be closely related, and the infectious nature of many, formerly attributed to other causes, makes the present subject one of utmost importance.

Instead of allowing the patient to diagnose his ailment as one of rheumatism as many of us no doubt have done, let us go into the history of the case and place a proper interpretation upon the findings.

In joint lesions it is of the greatest importance to make a correct diagnosis in order to institute the proper treatment to eradicate the disease sufficiently early, for the integrity of the joint or joints, or even the life of the patient may depend upon this.

Many of us no doubt have seen cases diagnosed rheumatism, where later developments showed one of the more serious joint lesions. An early tubercular condition in one of the joints, may, by the careless observer, be treated as one of rheumatism, (it is doubtful whether a monarticular variety of rheumatism exists) whereas, if the condition had been recognized sufficiently early, better results could have been hoped for. We should not be ever ready to call every joint pain rheumatism, nor should we overlook a possible rheumatism in children, and speak of growing pains.

In this day of scientific medicine, we must discard the mantle that was used to cover our snap-shot and usually wrong diagnosis of muscular rheumatism, when really, the patient needed some gynecological attention. On the other hand, how often did we not overlook a flat-foot, and ply the unfortunate sufferer with salicylates and colchicum for a chronic rheumatism, when he really needed some orthopedic attention. We no longer diagnose all intra-abdominal trouble "inflammation of the bowels;" neither should we diagnose all extra-abdominal aches and pains "rheumatism."

For the present and for the purpose of classification, let us drop the word "rheumatism," and instead use the term "rheumatic arthritis," or more correctly, "polyarthritides rheumatica;" and instead of speaking of "scarlatinal rheumatism" or "gonorrhoeal rheumatism," let us use the terms "scarlatinal arthritis" and "gonococcal arthritis" respectively.

In no class of diseases is there so much confusion as we find in joint lesions. The multiplicity of names, the many etiological factors, the almost innumerable underlying pathological conditions, make classification peculiarly difficult. No two of the many authorities consulted in the preparation of this paper, agree as to classification.

Another cause of this unanimity among the writers is the fact, that many of the condi-

tions merge, one into the other, while in etiological conception in many instances, there is great divergence of opinion. Conditions placed in one class by one writer, might also properly be classed differently by another. It is therefore with temerity that I offer you, gentlemen, the following classification, with a very brief description of the various lesions.

In grouping and describing joint lesions, I will, along with the true arthropathies or diseases involving the joint proper, consider the lesions that involve the soft parts close to and around the joints, as well as those that affect the shafts of the bones near the joint, for these conditions must necessarily be considered, when making a differential diagnosis.

Joint lesions will therefore be divided into three great classes or groups:

Group 1.—Periarticular lesions.

Group 2.—Arthropathies of infectious origin.

Group 3.—Arthropathies of non-infectious origin.

GROUP I—JOINT EFFUSIONS, EPIPHYSITIS, AND SYNOVITIS.—JOINT EFFUSIONS.

As the knee-joint is more often injured than any of the other joints, we therefore have a serous effusion or blood extravasation oftener in the knee. These conditions are nearly always due to injury. Athletes, after jumping or sprinting, frequently suffer from a serous effusion or blood extravasation into the knee-joint.

We may have a serous effusion of considerable quantity following some of the infectious arthritides. In chronic synovitis, the knee may become enormously distended with fluid. (Hydrops articuli). Cases have been reported where the effusion was so great as to cause a dislocation. This happened in several cases following typhoid fever.

EPIPHYSITIS.

Acute epiphysitis frequently passes as a form of acute tuberculous disease. This condition may result from an injury; is a common manifestation of hereditary syphilis, especially in the young infant; may result from an infected wound; or any one of the acute infectious diseases may cause it. It is usually, however, the result of transmitted syphilis. The ends of the long bones enlarge, due to the epiphysitis or periostitis near the joint, and may result in osteomyelitis. Handling the little patient causes intense pain, and therefore might be mistaken for a fracture or a dislocation.

SYNOVITIS.

A condition found usually in the knee-joint. We have several varieties; acute, chronic, tubercular and suppurative (streptococcal). An injury to the joint may light up an inflamma-

tion limiting itself to the synovial membrane; while if severe, it extends to the parts of the joint, when we then have an arthritis. An aseptic wound, a contusion or a sprain, or the irritation produced by a floating cartilage, may cause an inflammation of the synovial membrane with the usual inflammatory changes. The synovial secretion increases and may be watery. The joint becomes painful, swollen and tense. The patella floats up from the condyles. Rarely do these cases become chronic without extending into the joint; however the synovial symptoms being the more prominent, we may be justified in classing it as a chronic synovitis.

The chronic variety usually follows the acute. The synovial membrane becomes thickened as well as the neighboring articular structures by plastic exudation and the formation of fibrous tissue. The joint becomes distended with fluid, which impairs its usefulness to a great extent. This form, according to Bennett, may also be due to either of the following pathological conditions; osteoarthritis, rheumatism, gout, syphilis, gonorrhoea and malaria.

Tubercular synovitis is essentially a chronic disease. Some authorities claim that many of the cases of tubercular arthritis are preceded by a synovial tuberculosis. In this form the tissues are thickened and infiltrated. It affects adults oftener than children, and more frequently the knee-joint.

Suppurative synovitis may result from an infection with the streptococcus or staphylococcus following an injury such as a puncture, and is a very serious complication. It may also follow the exanthemata or any one of the infectious diseases such as erysipelas, etc.; however it soon extends to the joint proper, and we then have a septic arthritis to deal with.

GROUP II.—THE INFECTIOUS ARTHROPATHIES.

The next group, comprising the arthropathies of infectious origin, is an extremely important one, as formerly many of the conditions were confounded with what we now know to be a separate and distinct affection, i.e. acute polyarticular rheumatism. It was not until recent bacteriological discoveries, that the acute infectious arthritis came to be better understood.

For the present we will describe under the infectious arthritis the following forms: "The arthropathies in which the bacteria have been demonstrated in the diseased joints, (as tuberculosis and syphilis); those that appear obviously as complications and sequels of the supposedly infectious diseases, tho the germ is not always demonstrable in the joints, (as rheumatism and arthritis following influenza); those no matter whether the joint

lesions are due to the same cause as the primary diseases, or due to secondary invading organisms, (as arthritis after dysentery); those following an infectious disease, even though the organism causing same is not known, (as scarlet fever, mumps,); and even those cases where the toxic-infectious process affects the joint directly or indirectly through the mediation of trophic nerves, (as according to the views of some authors regarding primary chronic progressive polyarthritis.)"

Since, in several of the above named conditions, the germs have not, up to the present time, been actually demonstrated in the joints, Barker, of Johns Hopkins, in his paper read before the International Congress of Medicine, 1913, claims that the term "infectious" is thus, loosely employed. While this is no doubt true, nevertheless, we are justified in classing them under the "infectious arthritides," for it is supposed, and reasonably so, by many investigators, that the lesions are due to the invasion of some form of bacteria or their toxins.

Barker feels that it is legitimate to class as infections, the arthropathies like those of acute rheumatic fever, and those chronic types growing directly out of the acute or subacute processes associated with fever, leucocytosis, and enlarged lymphatic nodes.

We will divide this group into two classes; primary and secondary. In the primary group, I will place acute polyarthritis, rheumatica, arthritis tuberculosa and arthritis syphilitica.

While I will consider the three above named conditions under the primary infectious arthropathies, I do not wish to convey the idea that they are strictly primary as is ordinarily understood by this term, for in these conditions we often find the trouble beginning elsewhere in the body. I wish, however, to place them in a separate group from those that are obviously secondary in nature, following some other form of disease or injury.

ACUTE POLYARTHRITIS RHEUMATICA.

This form of arthritis is, as you know, peculiarly interesting at the present time. Formerly many theories as to its causation were advanced, and one after the other, discarded. In the light of recent reports, it is extremely probable that we have a bacterial disease to deal with.

Many varieties of organisms have been found in the joints of rheumatic patients by numerous observers. Poynton and Payne have isolated streptococci and diplococci quite uniformly from lesions after death, but in only a limited number during life. These have been injected into animals and symptoms similar to those of rheumatism have been observed, while morphologically and

culturally the organisms resemble the ordinary streptococci very closely.

From the experiments upon animals by many investigators, it is shown conclusively that we have a streptococcus disease to deal with. However, whether the ordinary streptococci and diplococci are the germs that cause rheumatism, possibly in combination with some other etiological factor, or whether we have other germs somewhat similar to those mentioned, still remains to be determined.

Three forms of rheumatic arthritis are described in most textbooks; the acute, sub-acute and chronic. It is highly probable, that many of the cases of so-called chronic rheumatism, rightfully belong to one of the variety included under arthritis deformans.

The word "rheumatism" is an ancient term, and was used to designate the joint lesions that were acute in character, and not traumatic or gouty in origin. At the present time its use is limited to those actions of the joints, that are acute and febrile in character, affecting a few or many joints in succession, with frequent cardiac complications, particularly in children, and yielding fairly constantly to the salicylates, and very rarely ending in suppuration.

ARTHRITIS TUBERCULOSIS.

Success in the treatment of this variety depends upon its early recognition; so it behooves us, gentlemen, to be on our guard when our patient has a nonarticular lesion.

We have two forms: "non-suppurative" and "suppurative." Early in the disease there is little or no swelling, but slight stiffness! later, there is swelling, due to the synovial involvement. The limb tissues waste, which causes the joint to appear very large in comparison. This condition is called white swelling or tumor albus.

Later, however, the articular ends of the bones and ligaments soften, and pain becomes more severe, especially at night. Fluctuation and tenderness indicate abscess formation.

ARTHRITIS SYPHILITICA.

Very early in life, the characteristic syphilitic disease of the bones is a form of osteochondritis. Hard tumors or enlargements appear at the epiphyseal junction. Several joints may be involved. Later, however, the bones in the neighborhood of the joint develop a syphilitic osteoperiostitis.

In acquired syphilis during the secondary stage, a painful swelling of the joints may develop, which resemble rheumatic arthritis somewhat; while in the tertiary stage, more destructive changes may take place. The hereditary lesions in infancy somewhat resemble rachitis.

The next group, those classed as secondary

may be subdivided into two classes; class A and class B.

In Class A, I will consider those lesions that are obviously secondary to the exanthemata, toxæmic and pyæmic conditions, as well as to wounds, etc.

The following are some of the conditions of which joint lesions are a frequent complication or a sequel; measles, whooping cough, pneumonia, dysentery, small-pox, Malta fever, gonorrhœa, cerebro-spinal meningitis, pyæmia, naso-pharyngeal inflammation, puerperal fever, intestinal toxæmia, wounds, unclean instruments, etc.

Many of the arthritides belonging to this group are mild in character; some, however, are very severe and of the acute type, while others become chronic. Those in which the pus-formers are a complication, suppurative, and we then have a septic arthritis.

In Class B, the forms of chronic arthritis included under the term arthritis deformans will be considered.

Owing to the extreme chronicity of the different forms of arthritis deformans, it was thought best not to consider them with the previous group.

On account of the mode of onset in certain cases of this variety, and its course as well as the X-ray changes, many observers were led to believe that they had a chronic infectious process to deal with. It is true that bacteria have from time to time been described in the joints, the observers, however, still disagree as to whether it is due to a specific germ, or to various micro-organisms.

The majority of observers, however, believe that it is infectious and probably secondary to some obscure focus of infection in the body. For instance, it is claimed by many that either of the following conditions may be the source of infection; chronic inflammation of the para-nasal sinuses, chronic tonsillitis, middle ear affections, pyorrhœa alveolaris, alveolar abscess, chronic appendicitis, cholecystitis, chronic bronchitis, chronic ulcerative enteritis, chronic pyelitis, chronic cystitis, chronic urethritis, and prostatitis, chronic salpingitis, and even chronic endometritis.

ARTHRITIS DEFORMANS.

Arthritis deformans, also called rheumatoid arthritis, osteoarthritis, and gouty arthritis, is extremely interesting, because as yet the condition is so little understood.

Goldthwaite in 1904, discarded the term "arthritis deformans" and instead used the term "chronic arthritis"; for the hypertrophic form he used the term "hypertrophic osteoarthritis." (osteoarthritis deformans), and for the atrophic form, he gave the name, "atrophic arthritis," (primary progressive polyarthritis).

McCrae, in Osler Modern Medicine, describes under the title "arthritis deformans," three forms; the periarticular, the atrophic, which corresponds to the "primary chronic progressive polyarthritis" previously mentioned; and a hypertrophic form, which corresponds to the "osteoarthritis" described above.

The periarticular form is distinctly inflammatory, and resembles chronic rheumatism somewhat. A single joint, but oftener several joints are involved. Often there is an antecedent history of acute rheumatism or perhaps chronic infection.

The atrophic form is insidious in onset, with little or no pain, no fever, nor any of the symptoms that would stamp it as an acute inflammation. The acute attacks may be intermittent and during the interval, the patient suffers but little. In some cases, however, the course is one of progressive joint inflammation, followed by the crippling deformity, from which the name "arthritis deformans" is derived. This form affects chiefly young adults, and mostly women.

In the hypertrophic form there is thickening and hypertrophy of the cartilages, while little hard knobs develop at the sides of the distal phalanges. These little nodules are called Heberden's nodes. In this form the deformity and disability is much less than in the atrophic variety.

Arthritis deformans in children. A form of this disease in children is described by Dr. G. F. Still, in which, along with the enlargement and swelling of the joints, there is also a considerable enlargement of the spleen as well as of the lymphatic nodes.

GROUP III.—NON-INFECTIOUS ARTHROPATHIES.

Let us now briefly consider the non-infectious arthropathies, conditions for the present at least attributed to causes other than infections. In this group I will mention those that result from disorders of nutrition; lesions due to irritants; lesions of neuropathic origin; and those caused by neoplasms.

ARTHROPATHIES DUE TO NUTRITIONAL DISORDERS.

In this group I will mention gouty arthritis; and the arthritides in haemophilia and purpura.

Since, that up to the present time, little or nothing is known in regard to the etiology of haemophilia and purpura other than that they are due to some abnormal condition of the blood vessels, I will take the liberty to class them with gout as nutritional disorders.

GOUTY ARTHRITIS.

Gout is a nutritional disorder, characterized clinically by attacks of acute arthritis, a gradual deposit of binate of sodium in and

about the joints, with more or less constitutional disturbance.

Little is known of the nature of the disorder. We do know however, that it is due to faulty metabolism.

Several forms are described: acute, chronic, and irregular. While the inflammation in the acute form is intense, the joints never suppurate. The patient may have three or four attacks a year. After several attacks the symptoms persist for a longer time, and more joints become affected. The disease now assumes a chronic type. Urates are deposited in the ligaments and capsular tissues, which causes great deformity in time. The feet suffer first, and later the hands.

In the irregular form the symptoms vary. There may be cutaneous eruptions, gastrointestinal disorders, cardio-vascular symptoms, nervous manifestations, kidney and bladder symptoms, and even pulmonary disorders along with the other characteristic lesions.

ARTHRIDES IN HAEMOPHILIA.

In haemophilia the joints are frequently involved, the knees and elbows chiefly. Koenig recognizes three stages: 1st, Hemorrhage into the joint; 2nd, An inflammatory process with fever and spindle formed swelling. 3rd, There may be extensive organic changes resembling arthritis deformans.

ARTHRIDES IN PURPURA.

In this disease we may have joint involvement, and three forms are recognized: 1st. Purpura simplex. In this form the joint symptoms may be very mild somewhat resembling rheumatic arthritis.

2nd. Purpura rheumatica. In this form we have a multiple arthritis accompanied by a purpuric rash or eruption, occasionally urticaria or erythema exudativum. The rash appears about the affected joint.

3rd. Purpura erythema. This form affects children chiefly, but the joint pains are mild.

ARTHROPATHIES OF NEUROPATHIC ORIGIN.

In this group I will consider the following; Syringomyelia, arthritis of Tabes, hysterical joint, and a form which will be considered under the term neurotic joint.

The last two named, of course cannot be considered as belonging to the true arthropathies, as they are purely functional in nature; they, however, coming under the generic title joint lesions, can properly be treated of in this paper.

JOINT LESIONS IN SYRINGOMYELIA.

Syringomyelia is, as you know, a disease of the spinal cord, characterized by the presence of cystic cavities. Along with other trophic disturbances we frequently encounter joint

lesions, which scarcely differ from those of tabes. I will, therefore, consider the tabetic form which was first described by Chareot.

TABETIC FORM.—CHARCOT'S DISEASE.

In locomotor ataxia there may be joint lesions that resemble in its pathology, osteoarthritis. The cartilages degenerate and with the underlying bone, is worn, as a result of the movements of the limbs. About the periphery of the joint, we have an irregular formation of cartilage and bone. The synovial membrane hypertrophies and becomes covered with chalky plates.

This form of joint trouble may begin early in the course of tabes, or even before the existence of the disease is suspected. Charcot's disease affects about 5 per cent. of ataxic patients.

HYSTERICAL JOINTS.

In hysterical individuals, along with the other symptoms symbolic of this disease, we occasionally encounter joint affections. While it is true that many of these affections are purely hysterical and yield to proper treatment, it is also true, that in other cases, as reported in the literature, organic changes have succeeded the functional disturbance.

NEUROTIC JOINT.

In neurotic joint there is usually a physical basis for the symptom, even though exaggerated. Many of these cases are called "neurotic," simply because no cause is apparent. An injury may cause it; or it may be due to injury.

An injury to the knee in a neurotic child, may be followed by a persistent flexion contraction, even after all the other signs of the prolonged immobilization following a slight injury have disappeared. In many cases there is no history of injury, as in neurasthenia, anaemia, etc.

JOINT LESIONS DUE TO IRRITANTS.

We will next consider the lesions classed under the irritants. Loose bodies and displaced cartilage will be mentioned.

LOOSE BODIES.

A not infrequent condition especially in the knee-joint is that due to loose bodies. According to Barker, it is in the various types of deforming arthritis that loose or free bodies (*corpora libera articulorum*) especially the hard variety, are more frequently found. In certain forms of synovial tuberculosis, fragments become detached. From a therapeutic standpoint, we are mostly concerned with those joints that are otherwise normal.

These bodies may be composed of fibrin, detached portions of synovial membrane, as well as of cartilage and of bone. There may be no especial symptom, when suddenly a severe pain is felt due to the fragment becoming interposed between the two surfaces of the

bones. After manipulating, the loose bodies may become dislodged, and the pain disappear. A serous effusion into the joint may result.

DISPLACED CARTILAGE.

A twist of the tibia upon the femur outwardly may cause the displacement of the semilunar cartilage. The limb becomes fixed, while the irregularity may be detected.

JOINT LESIONS DUE TO NEOPLASMS.

According to Barker, joint diseases due to tumor growth are rare. Primary sarcomata sometimes happens that the proliferative and enchondromata occasionally occur. It metaplastic process of arthritis deformans resemble (and often erroneously diagnosed as) fibroma, enchondroma, or osteoma.

In submitting to you, gentlemen, this classification, I am fully cognizant of the fact that it will not meet with general approval. Any attempt to properly group a class of diseases such as the arthropathies, with such a varied symptomatology, and in very many instances a doubtful etiology, must necessarily be difficult and in the end unsatisfactory.

My classification is purely an arbitrary one, and I hope that the attempt, even though a crude one, will be the stimulus for further investigation and study.

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DISCUSSION.

Isaac Lederman, Louisville: I want to say a word or two with reference to the naso-pharyngeal aspect of rheumatism. As you all know, the whole profession, specialists and everybody, in the last few years have gone crazy over the tonsillar question, and I am afraid we have overdone it. No doubt the relationship between rheumatism and tonsillar affections, or rather the relation of the tonsil with reference to the etiology of rheumatism, is far from settled. There is a tendency among specialists, and with them general practitioners, in every case of rheumatism, especially in a child, or in every case of rheumatic pain, every case of joint or muscle pain, to immediately jump at the tonsils, and I would like to sound a note of warning; because I am sure there are cases in which the tonsils are innocent, so far as the entrance of the infection, or whatever may be the cause of the rheumatism, goes. We must not forget the tonsils are very often excretory, and that they may be of great

importance in taking care of infection. Just because they become enlarged is no reason why they should be taken out. I do not want to be understood as opposing the removal of tonsils in connection with rheumatism or with any other symptoms that attract our attention to the tonsils, but I do believe we must examine the case carefully, as Dr. Garrison has indicated, work at it from every standpoint and not jump at the easiest feature of the case, which would be the removal of the tonsils. It is an important business to remove tonsils, and there are some of us who are not giving the tonsils the attention they should receive from a conservative standpoint. I believe that in adults the tonsils very seldom have any etiologic relationship with rheumatism. I have on a number of occasions removed the tonsils at the instigation of general practitioners in adults and the rheumatism has gone on just the same. In children it is more frequently the case that the tonsils have a causal relation. I believe also there is only one form of rheumatism, that is the acute inflammatory rheumatism where the tonsils have any relationship at all; although I am not in a position to go into the various forms of the disease as Dr. Gerding did.

I have seen cases of arthritis deformans with general practitioners in which they have insisted on having the tonsils taken out, and I believe it is absolutely of no use. It is harmful. I believe normal tonsils have a purpose, and they should not be removed just merely because somebody, no matter how high the authority, has said that organisms pass into the blood or the lymphatic system through the tonsils. The great difficulty is and always has been in determining when the tonsils are diseased, and when not, and what relation they bear to any general disease with which we are dealing.

R. W. Bledsoe, Covington: I want to congratulate Dr. Gerding and Dr. Garrison on the papers they have so elaborately given us this afternoon. They are both very fine indeed. These papers show hard work on the part of both gentlemen. I am particularly interested in the subject from the standpoint of the throat. There were several points brought out in each paper that are of much importance to all of us, but I am going to confine my remarks to those with reference to the throat and possibly the nose.

In the first place, I want to concur and yet disagree with Dr. Lederman. Personally, I am satisfied that there are many cases of rheumatism, or rather so-called arthritis or inflammation of joints, be they acute or chronic, mild or severe, that are positively due to infections in the tonsils. Here is where I agree with Dr. Lederman, that all tonsils should not come out, or rather a patient with some joint involvement need not necessarily lose his tonsil on account of joint pain: but if the tonsils are thoroughly examined by one who has had experience in cases of this sort, and he finds

them to contain a cheesy exudate, infectious in nature, be they large or small in size they should be taken out.

I have taken out small tonsils that were decidedly infectious in rheumatism. I heartily agree with Dr. Lederman that even though the tonsils be large and the patient has rheumatism, let the tonsils alone if they are healthy, as the rheumatism is coming from some other source: but where you have rheumatism associated with diseased tonsils, I agree with him the tonsils should come out. Take out the diseased tonsils in a rheumatic case and leave normal tonsils alone even though the patient be rheumatic.

Take some of these rheumatic cases with diseased tonsils and the internist will say it is due to intestinal infection. We must admit it is not due solely to the local effect of the tonsillar infection, because with chronic tonsillar infection patients swallow some exudate each time they eat or drink, part of which may be absorbed from the intestinal tract, at the same time it is taking place through the throat and lymphatics. They are becoming infected through more than one source, not only the lymphatics surrounding the tonsils but through the intestinal tract.

Within the last few months I have removed some very small but diseased tonsils hardly larger than the end of a small finger in cases of adults associated with rheumatism in which the rheumatic attacks have positively ceased, and sufficient time has elapsed for me to speak on that point definitely and feel satisfied that the site of infection has been removed.

In regard to children, as Dr. Garrison well puts it, joint pains of any sort need to be carefully investigated.

Possibly their tonsils are the seat of trouble, possibly not, but in case they are the seat of trouble, it is a wise thing to have the tonsils taken out early. The same remark also pertains to adenoids. It has been my misfortune to run across several children under twelve years of age who have had most violent heart trouble as the result of rheumatic infections following acute tonsillitis in which the heart action precludes the advisability of administering a general anesthetic for removal of the tonsils.

I want to say to you, it is inhuman to attempt to take out tonsils and adenoids from children without an anesthetic of some sort, and local anesthesia in young children is not satisfactory by any means.

S. P. Garrison, (Closing): I am glad the point was brought out that the tonsils should come out only when they are diseased. I did not wish to convey the idea that the tonsils should be removed on account of rheumatism, but I do think that when they are diseased they ought to be removed. While my paper dealt only with children, I have seen a good many cases in adults where the tonsils certainly had a close relationship to the attack of rheumatism.

ENURESIS IN CHILDREN.*

By N. W. MOORE, Cynthia.

This paper is presented to you by the request of the Program Committee of the Kentucky State Medical Association; by no means a dry subject, as many of you may imagine, but to my mind it embodies all the "ear marks" of being a "little wet one." Memory cannot carry us back to our infancy, but we can all remember in our childhood days when "Willie wet the bed," and it was always "Willie, who was the guilty one and not I," but sometimes, after mother had inspected the soiled sheet, she decided otherwise, and it was you who received a good spanking.

This troublesome condition causes much distress to the child and the family, and yet the physician many times feels hopelessly incompetent to treat it, because it is a symptom rather than a disease, and to determine the cause or causes of its existence is by no means easy, and in some cases, utterly impossible.

In reviewing the latest literature on enuresis by the best recognized authorities in this country and abroad, I find that many of them differ widely as to its etiology and treatment, thus in a way so bewildering or confusing to such an extent that we are left stranded on a sea of doubt. Nevertheless we can glean from here and there sufficient truth or knowledge to enable us in a certain percent of cases to arrive at a correct diagnosis and a rational treatment.

Excluding malformations and local irritations, Herman is among the advocates of the theory that enuresis is only a neurosis due to an irritability of the spinal center which presides over micturition; that it often runs in families, sometimes inherited, and a tendency to other nervous diseases, such as migraine, epilepsy, insanity, hysteria, etc., will often be found in the family of the little patient. He also believes that the analogy to nocturnal seminal emissions is obvious in that both conditions are spasmodic affections, due to weakness of spinal nerve centers. Similar views are expressed by Janet and others.

Casper explains the condition by asserting that there is a faulty relation between the innervation of the detrusor muscle of the bladder and its sphincter.

According to Morris in "Allbutt's System of Gynecology," enuresis nocturna is of psychopathic (mental) origin. It arises from the child having a besetting dream of passing water, and this is aggravated by the fear that she will wet her bed. From thirty-six personal observations, Perrin concludes that this

condition is not due to any organic weakness of the sphincter, but in nine out of every ten cases, is the result of deep sleep which leaves the bladder function entirely dependent upon the medullary centers. A carbon-dioxide intoxication as the result of insufficient respiration, as in case of adenoids or polyps, may play a role in this connection.

Wachenheim believes that enuresis is a developed habit. Like tics or habit spasm it is almost continuous. The bladder tends to empty itself whenever a small quantity of urine accumulates, and that it is often found associated with other habit spasms like stuttering; that it also appears at the very age when other spasms commonly manifest themselves.

A more reasonable theory of the cause of nocturnal enuresis is described by Cabot as follows: "In babies the detrusor muscle is stronger than the sphincter, and as a result, when the bladder fills up, it overflows. When the child reaches the age of two years usually this relation, by proper teaching, has gradually changed, so that the sphincter is stronger and prevents the detrusor from contracting and emptying the bladder involuntarily. As the bladder fills, the sensory nerves of the bladder mucosa transmit impressions to the brain, which in turn, through the bladder motor nerves connecting with the sphincter muscle, cause increased tonicity to resist the detrusor. In case of bed wetting in the child, the sphincter has insufficient resistance. A very acid urine may unduly irritate the detrusor and thus may be the cause of an enuresis, just as exposure to cold may aggravate the condition."

Rotch says that the causes which produce enuresis may act in two ways: either directly on the centers in the lumbar cord, making them more irritable or unstable, and in that way increasing their reflex irritability, or indirectly, through exaggerated reflex causes that affect both acceleratory and inhibitory influences sent to the bladder. These influences may be psychic, originating in the brain or may be the result of external irritation originating in or near the bladder itself. There is also during childhood a lack of development of the centers of inhibitory reflex acts, and in this way the muscular fibres of the bladder, having no inhibitory restraint, are excited to action, even by so slight a reflex cause as a small quantity of urine. For this reason, enuresis is a normal condition during infancy and ceases when the child's inhibitory mechanism is more developed. The inhibitory influence of the will is in abeyance during deep slumber and nocturnal incontinence therefore, is more common than diurnal.

Morton in his latest edition (1914) of *Genito Urinary Diseases*, very truthfully

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says, "a want of proper bringing up may here and there be responsible for the condition, and in a few cases it is due in the first place to carelessness. The child wakes at first, but will not get up to empty his bladder. Later on he does not wake up thoroughly and voids the urine in the bed semi-consciously."

Often the mother allows the child to drink a large amount of water in the early evening and then expects it to sleep from 7 or 8 p. m., until late in the morning. In other words, the child with a small bladder is expected to hold his urine for a period that would almost be impossible for an adult, and the habit of wetting the bed continues even when the cause is removed. Thread-worms, in the belief of Still are so often the cause of enuresis, that it is wise, even when their presence is denied, to give a few doses of santalin and calomel to make this point certain. In the maze of theories that are now being advanced, the internal secretions are held responsible in some cases, for instance, a functional disorder of the suprarenal glands, or an insufficient thyroid secretion, and that in some cases it is due to an alteration of a certain hormone of the internal secretion of the kidney, which in a way becomes unable to act on the bladder sphincter.

In order to understand the etiology and treatment of enuresis, we should know the anatomy and physiology of the nervous system of the bladder, which is as follows:

The bladder is supplied with two distinct nerve systems, the spinal and the sympathetic. The former is represented by spinal centers in the third or fourth segment of the lumbar enlargement, and its nerve fibres enter the base and neck of the bladder by the third and fourth sacral nerves of the sacral plexus on each side. The sphincter vesicae, therefore, is supplied by these nerves. The sympathetic system consists of nerve fibers, which, intercommunicating in the pelvic plexus with each other, and with the spinal nerves, supply numerous branches to the upper part of the bladder. The reflex arch is established by sensory nerves, which enter the spinal cord in the usual manner and communicate with the spinal centers in the lumbar enlargement. These nerve systems, while they are concerned in relaxing or maintaining the contraction of the sphincter and muscular wall of the bladder, may in time be, inhibited or stimulated by nerve fibres of the upper neuron system, whose centers are in the cortex of the brain. Attention also must be called to the connection between the fibres of the sympathetic, mentioned above, and the sympathetic system generally, which communicates in turn with the spinal nerves of a higher level, and apparently with some of the cerebral nerves derived from nuclei of the medulla.

The muscular layers of the urethra is similarly innervated.

Keeping in mind this arrangement of the nervous system of the bladder, the causes of enuresis may be grouped as follows:

1st. Lesions and Anomalies in Bladder Structures.—Weakness of muscles as hereditary or congenital defects of a general debilitated condition, non development of the prostate, etc.

2nd. Lesions Involving the Peripheral Termination of Sensory Nerves—Thread-worms in rectum, inflammatory condition on external genitalia, phimosis, adherent prepuce, constricted meatus, eczema, ulcerations, masturbation and inflammatory conditions in bladder.

3rd. Lesions Involving the Peripheral Trunks or Fibres of the Nerve Mechanism,—overloaded rectum causing pressure against sacral plexus, as well as upon the bladder itself; pressure from tumors.

4th. Lesions Involving the Spinal Centers and Tracts.—They usually cause a general and but rarely a nocturnal incontinence.

5th. Lesions Involving Higher Nerve Centers in Cortex of Brain.—Nocturnal Epilepsy, deep sleep such as occurs in children suffering from post nasal adenoids, or hypertrophied tonsils, hysteria, neurasthenia, chorea, brain tumors and insanity.

TREATMENT.

There is no routine treatment for enuresis. Each case should be studied closely with an effort to find the true cause or causes which are responsible for this condition, and in many instances when this is found, the enuresis can be relieved or cured. Punishment by severe scolding or whipping the child is unjust and does no good, but often aggravates the trouble. However, when the child is too lazy or indifferent to get up and void his urine, punishment is justifiable. Raising the foot of the bed; tying a knot under the child, so that he will not lie on his back; restricting the liquids taken late in the afternoon; taking the child up in the middle of the night to urinate, are all simple methods and are very valuable in many cases.

If a careful examination shows that there is no malformation or central nervous lesion to deal with, the urine should be examined. A hyperacid urine should be treated by a milk diet and no meat, and the administration of potassium citrate after each meal. If the urine is alkaline, leave meat in the diet and give either urotropin or benzoate of ammonium in 4 grain doses after meals. After the urine has been brought to a normal condition, tincture of belladonna in increasing doses is the drug which will prove the most valuable. It should be given a long time—

from three to six months being required in some cases—for a complete cure. If the urine contains bacteria, coli bacillus infection, urotropin should be administered; in mixed infection salol and possibly vaccine therapy.

When tincture of belladonna has failed to control enuresis, aromatic tincture of rhus has been successfully used, increasing the dose gradually to 30 minims a day. If this fails, Levi advises a solution containing 1-240 gr. of atropin and 1-480 grain of strychnia to the drop. The initial dose of this is one drop a day, increased one drop daily until symptoms of the physiological action of atropin or strychnine appears, or the enuresis ceases. Under these plans of treatment, 75 per cent. of recoveries may be expected.

Local inflammation should be properly treated; circumcision should be performed when needed, and the clitoris should be freed from adhesions. This alone has often cured young girls, even in their teens, of nocturnal enuresis.

Children who are not suspected of epilepsy have such slight attacks at night as to be unnoticed, except for the fact that the urine is involuntarily evacuated. In such a condition the bromides or other epileptic remedies should be given.

Ergot has been recommended, owing to its tonic effect on the smooth muscle fibre of the bladder and in my own practice it has seemed many times to be successful. The dose of the fluid extract of ergot for a child 5 years old, should be about fifteen to twenty drops, three times a day, in water, after meals.

Dietary mistakes should be corrected, such as feeding the child too rich, irritating food, food that is hard to digest, or food that causes intestinal indigestion, producing gaseous distention of the intestines, which may so press on the bladder as to cause enuresis. Constipation should be overcome and the run-down, debilitated patients should be given tonics in the way of iron and strychnia, and moderate, outdoor exercise. Recently epidural injections of normal salt solution have been recommended for very stubborn cases which remain unrelieved by all of the well known remedies. Opinions are divided as to the advantage of injecting a weak cocaine or a normal salt solution. A full description of this valuable method of treatment can be found in the *Interstate Medical Journal*, January, 1914, in a very extensive article on "A Review of Recent Literature of Enuresis Nocturna," by Dr. Hugo Ehrenfest, of the Editorial Staff, from which, I have obtained most valuable information in the preparation of this paper.

Obstructive adenoids and enlarged tonsils should be removed.

Faradization of the bladder three or four times a week is a valuable measure. One pole

is placed over the bladder region against the symphysis, and the other is carried into the rectum. The strength of the current is graduated to the patient's feeling and is often followed by success.

Where there is a thyroid insufficiency, the administration of thyroid extract produces prompt relief, and in some cases, a cure. As to the value of hypnotism, suggestion, etc., as advocated by some, we shall leave this to the psychologist. However, we do know that there is such a thing as a subconscious mind and that it can be trained by auto-suggestion to such an extent as to enable one to awake at a certain hour of the night, for instance, to meet a train, thus doing away with an alarm clock. Therefore, it is reasonable to assume that the child can be so influenced that even during deep sleep the subconscious mind may have an inhibitory control over the sphincter muscle of the bladder, but, as Klötz says: "All the drugs and methods which have been recommended may be employed, It is not so important what is done, as how it is done and who is doing it."

DISCUSSION.

Phillip Barbour, Louisville: Dr. Moore in his paper has called our attention to the conditions which underlie enuresis in children. He has gone into such detail that one can hardly add anything to what he has said. Some years ago I wrote a paper on this same subject, which was printed in the *Therapeutic Gazette*, and after its publication I received letters from Australia, Persia, India, and South America so that you can readily see that this disease of nocturnal enuresis is quite prevalent all over the globe. From the letters I received, I should say it is equally intractable in those countries. There have been a number of different remedies suggested for the treatment or relief of this condition. My own personal opinion is that about ninety per cent. of the cases are due simply to an irritable condition of the mucous membrane of the bladder. I say that because I have had two or three cases in my professional life that did not respond fairly promptly to treatment addressed to that end. I am not including cases of small bladder or malformation of the bladder, or those cases in which there have been worm or irritations in the rectum, or local irritation from other sources, such as phimosis or a bound down clitoris. Over ninety per cent. of the cases in my own experience have responded promptly to simple treatment addressed to the irritable condition of the mucous membrane of the bladder. In my clinical service in the hospital college and City Hospital I can recall but few cases that have not yielded promptly to the use of boric acid and salol. Dr. Palmer, of Louisville, some years ago, before his death, recommended boric acid and salol in the treatment of cystitis compli-

eating gonorrhoea, and he found those agents gave great relief to the cystitis. Accepting that suggestion, I have tried it for a great many years and have administered boric acid and salol to the point of tolerance, and have found it a very gratifying prescription for nocturnal enuresis. I am rather surprised if a child should come back that has not been relieved by this treatment. Of course, all of us have had much experience in certain lines of treatment, when case after case have greatly improved and we would meet one or two it would not relieve. Ordinarily, I give to a child, five years of age, five grains of the boric acid and five grains of salol, four times a day. I have not seen any untoward effects from salol and ordinarily I have seen gratifying results from it.

The use of electricity in certain cases has been of great advantage. The use of the current over the pubes, as has been stated, has a marked effect on the child. Whether the enuresis in these cases is purely mental or the children have been raised badly, I do not know. I cannot make up my mind as to that. Occasionally I have used urotropin when the urine was highly acid. I do not believe in punishing these children. When a child wets the bed involuntarily, I do not believe any kind of punishment will enable the child to control his urine. I see no result from physical mortification, pain or discomfort.

Virgil E. Simpson, Louisville: The successful management of enuresis presupposes an intelligent effort to determine its cause. It should not be considered a disease but a symptom. As coughing, sneezing, vomiting and palpitation are expressions of a disorder so is enuresis a clinical manifestation of trouble. It may be a symptom of a functional disturbance or an expression of a serious pathology which defeats the efforts of the physician or surgeon to relieve.

To lay down the dictum that ninety per cent. of all cases can be relieved by two drugs is, indeed, a broad assertion when the many causes of the condition are reviewed. In addition, one may justly question the wisdom of urging a routine procedure for this or any condition since it tends, at least, to encourage superficial efforts to bring the cause to light.

I am much disinclined to sanction the use of cocaine for the relief of enuresis. Its satisfactory use must necessarily be confined to such cases as present a simple hypersensitiveness of local nerves, a condition amenable to other agents less harmful in their potentialities. Such an increased irritability of the peripheral nerves may be due to chorea, epilepsy, hysteria, anemia, etc.; and cocaine in such cases constitutes a waste of both time and drug.

It is well to determine the bladder capacity in such cases as are marked by chronicity, since in long continued incontinence the bladder becomes contracted and its capacity is decidedly less than normal. While a small bladder may not have

been the primary etiological factor yet it may serve to continue it. In such cases it may be necessary to increase its capacity by careful distension with warm saline or saturated solution of boric acid at frequent intervals. I understood Dr. Barbour to say that hexamethylenamin was ineffective in cases of alkaline urine. Since it is true that in the great majority of cases the urine leaves the kidney acid in reaction and becomes alkaline in the bladder, I believe the drug accomplishes its greatest possible good in the alkaline cases. It is absorbed and excreted rather promptly and mainly unchanged. Its excretion begins in about fifteen minutes. It liberates formaldehyde slowly yet persistently under all conditions of the body and urine. This liberation will continue in urine at room temperature for ten days to two weeks before completed and such urine will resist bacterial changes indefinitely, though less resistant to moulds and algae. It will develop formaldehyde in all media, though more rapidly in acid. It will prevent bacterial putrefaction of the blood, which is alkaline. It will prevent pancreatic putrefaction, which is alkaline. It can be administered in sufficient quantities to sterilize the bile, which is alkaline. Not a few cases of enuresis are due to bacterial invasion, especially bacilli coli. Hexamethylenamin, on account of its germicidal activity removes the cause of decomposition in the bladder and the urine rapidly becomes acid in reaction and free of bacteria and incontinence disappears.

S. G. Zinke, Richmond: The last speaker referred to the use of cocain. I think the value of epidural injections depends entirely upon the pressure exerted by the fluid injected. In my opinion the cocain does not amount to anything so far as anaesthesia of the centers is concerned. Cocain in epidural injections is not necessary. It is the pressure that is produced, and not the drug itself that does the work. The drug does not enter the spinal cord by any means. The pressure is down below.

I agree with the essayist in regard to the importance of the diagnosis of these cases. If you do not make a correct diagnosis of the cause of the enuresis you cannot prescribe intelligently for it.

I also agree with him in regard to the use of hexamethylenamin or urotropin. Personally, I prescribe it in connection with sodium bicarbonate, equal parts of the urotropin and sodium bicarbonate giving better results.

As to the bladder of small capacity: I do not believe in educating or dilating the bladder by irrigation. I believe in increasing the capacity of the bladder by getting the child to retain its urine for a longer time during the day. In a good many cases of enuresis, micturition is very frequent during the day. If you can get the child to control the urine during the day, you will get dilatation of the bladder. A drug I have

found best for relieving the irritation incident to any urinary condition, it does not make any difference whether it be due to the concentration of the urine, hyperacidity or anything else, is the fluid extract of *herniaria glabra*, in adults given in fifteen to twenty drop doses taken in half a glass of water three to four times a day. Dose varies in accordance with the age of the patient. If you put patients on that when they have cystitis, it will relieve them in an hour. It can safely be given to children in small doses, and can thus more readily educate the bladder to retain more urine.

Another thing that has not been mentioned, is nervous polyuria. Many children play until they are in an exhausted state. Children should be kept quiet after supper. Let them have a period of rest before retiring. If you put a nervous child to bed, he may go into an apparently sound sleep, but it is not a restful sleep; such as he should have. It is more the sleep of exhaustion.

As regards carbon dioxide intoxication in cases of adenoids: if there is any question as to the oxygenation of the respiratory centers, either half grain doses of thyroid extract or Fisher's solution will give you increased oxygenation. Fisher's solution will relieve cases of asthma where the respiratory centers do not get enough oxygen. I have seen these cases improve remarkably by taking a couple of glasses per day of Fisher's solution by mouth. In many cases there may have been a delayed development of these centers. Here the use of the thyroid extract in half grain doses, is indicated, if the patient has a sufficient secretion from the thyroid, half grain doses, three times a day, for a week will not harm the patient; it is more liable to do him good.

As to the psychology of having the child wake up. I do not know anything about that. People sometimes forget to wind the alarm clock; they may also forget to wind up the psychology. (Laughter.)

D. P. Gillim, Owensboro: I cannot add anything of particular interest to the excellent paper that has been presented by Dr. Moore. I have heard one gentleman say that urotropin acted in an alkaline solution; that we get our good effects from it in that way. It is a chemie fact that urotropin only acts in an acid urine, and not in an alkaline urine. If heredity plays a part in any disease, it plays it in enuresis. One phase of this subject the essayist did not dwell on I think, sufficiently was the intestinal toxemias that aggravate and prolong these cases of enuresis. I refer not only to intestinal disturbances which produce pressure upon the bladder, but to the absorption of these intestinal toxins which produce and aggravate the enuresis. One gentleman (Dr. Simpson) spoke of enuresis as a symptom, and I agree with him.

S. G. Zinke, Richmond: Reference has been made to urotropin acting only in an acid medium.

I should like to know how many of the members present who really believe that, give urotropine in a case of enlarged prostate with cystitis, with ammoniacal urine and get results. I repeat I would like to know how many get good results in those cases.

N. W. Moore, (Closing): With reference to the remarks made by the last speaker (Dr. Gillim), it was thought a few years ago that urotropin would have a great effect on some cases of meningitis, but in an alkaline medium it has no effect. It has got to be liberated into formaldehyde and only acts in an acid medium, so that, as a rule, the urine is acid, and therefore we get the good effects of the urotropin. We must reduce the urine to a normal condition with the drug.

One gentleman spoke of the use of boracic acid and salol. I would suggest that if he adds a few drops of belladonna to his prescription he would get better results.

I have dwelt upon the causes of enuresis, and also the treatment. It is important to know the cause of the disease before we can institute rational treatment.

Dr. Zinke spoke of epidural injections of cocaine, and said it does not matter whether you use cocain or normal salt solution just so long as you produce pressure over the spinal cord.

INJURY TO PARTURIENT CANAL.*

By H. C. CLARK, Falmouth.

According to an agreement made with the committee on the program my subject has been changed to injuries to the cervix and peritoneum.

Since but little in the way of prevention can be hoped for ordinarily, yet we are expected to offer all protection possible, by first seeing our patient is aseptic, and antiseptic. Should we have the time, after reaching the patient, we will see that this is done, if it has not already been attended to. The vagina should be douché with a warm antiseptic solution. The douche has been too much neglected on account of it's being abused in the beginning of its usefulness; the pendulum swung too far to the extreme, and it fell into disfavor. Notwithstanding this it has a place in the practice of obstetrics.

If the things have been attended to, and any damage takes place to the cervix, or any portion of the passage, we have the assurance that the patient is in a condition to prevent infection, to some extent. This is one of the most important measures to be considered in the beginning as a precautionary measure, as local treatment cannot be relied upon, or internal medication promise but little, after the accident has happened all we can do to

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protect her is along the line of preventive means—that is including a certain amount of protection against the accident the physician may offer by his management of the first, and second stage of labour.

I have said in the beginning that there was not a great deal to be expected in the way of prevention, but there are things which we should do, in the beginning of the first stage, which at least will guard against severe, or extensive laceration: that is to give the cervix an opportunity to do its work without being interrupted by the physician attempting to hasten dilatation. Refrain from meddling, or giving drugs, until interference is actually demanded, or we will certainly have trouble from start to finish; we should not try to convert a physiological into a pathological condition. Should you unintentionally or otherwise rupture the membranes you most assuredly have been guilty of contributing to some extent your mite in producing increased laceration, by destroying one of the woman's safest and best means of dilatation.

Are we not guilty of undue haste at times, resorting to manipulations and the use of drugs, which are dangerous and uncalled for, and is it not true that these means are only used in order that we may save time? Powerful drugs are dangerous given at any time before the uterus is emptied, and is it not true that we are responsible, to some extent for increased laceration? Is there any gentleman present who does not know these misfortunes have been less in number, and severity since the use of ergot was discontinued? How is it that ergot was held in such high esteem, for so long a time, and the misfortunes it was guilty of producing was of such slow recognition? It is to be hoped that we have profited by experience and will be slower in giving credence to drugs of the same character.

I can remember when it was a difficult thing to find a physician who did not indorse this drug, and we were all blind to the damage it did. I can remember Dr. Ramey, of Cincinnati, who was an enthusiastic believer in ergot, invited Dr. M. B. Wright to witness the action of the drug, and at this particular time it failed to act at all. Dr. Ramey remarked that Dr. Wright was so bitterly opposed to the use of ergot, that it would not act in his presence. Dr. Wright replied, "Dr. Ramey I shall live long enough to see you condemn the use of ergot given any time before the third stage, it is guilty of producing lacerations, to an increased extent, and many dead babies."

Notwithstanding our former experience with ergot, and the sin it was guilty of, are we not taking into consideration, and introducing every day a drug pretty much of the

same character, except it is more powerful and dangerous, given in the first or second stage of labour, or at any other time before the uterine cavity is empty? If ergot was responsible for increased laceration of the cervix, and it surely was, what may we expect of a drug which acts with more certainty, and greater energy; producing tonic contractions, which sometimes completes the labour in an hour where six or eight hours should be given the patient?

I talked with a physician recently who told me that he gave pituitrin to one patient, who had been in labour four hours, the cervix was dilated as large as a half dollar, and in fifteen minutes the child was born. Severe laceration of perineum resulted. Another physician reported that he had given this drug to three patients and he would not give it again on account of its producing tonic contractions, that it surely was a giant. He failed to check its action with chloroform when he got alarmed for fear he would have rupture of the uterus. A leading physician in an adjoining county reports its use in five cases; one of these cases almost collapsed from sudden emptying of the uterus, and she had extensive laceration, another one of his five patients he gave one ampule, repeated it in an hour, in a half hour she had eclampsia. Did pituitrin make matters worse? Can you always tell before hand when a patient is threatened with eclampsia?

There is nothing more positively true than the fact that where the first or second stage of labour has been hurried up by any kind of procedure the danger to laceration has been increased. While it is true that the majority of laceration appear to give no trouble whatever the woman goes right on into an uninterrupted recovery, and becoming pregnant, carrying her child to full term, yet there are a large number of these cases who receive no surgical attention after confinement, and suffer dire consequences from injury done the cervix during confinement. There is no doubt in my mind but what these injuries are an exciting cause of carcinoma of the cervix. I am sure that I have seen several patients, who could have escaped this horrible disease had the cervix received proper attention as soon after confinement, as practical.

I have arrived at the conclusion that there is some protection we can give the cervix, by hesitating to be unduly officious, and in using precautionary measures: withholding ergot or pituitrin until the third stage of labour is over. Also seeing that we have not been guilty of conveying septic poisons on our hands. Gloves are sometimes a snare and a delusion, and are causing us to feel a sense of security, that is not always justified on account of the way we have cared for them.

The importance of caring for the cervix has been briefly alluded to. We will now have something to say on the support of the perineum, and the protection of the entire passage, and the patient by the use of bacterial vaccine.

In the primipara at least half have some degree of laceration, and it is unavoidable excepting by substituting incisions. During the sweep of the head through, can the perineum be supported? This question has been answered in the affirmative by few, in the negative by nearly all physicians. There was a time, only a few years back when you often heard about how to support the perineum, during the passage of the head. Lecturers attempted to instruct you, on the manikin just how this was done, by laying the hand on just so—you prevented the muscles from tearing; by the use of hot towels frequently applied you were instructed that these hot applications would produce relaxation; allow the head to slip through, without laceration. Supporting the perineum is a fallacy *it cannot be done*. I remember how Dr. Jno. Withrow, of Cincinnati, related the circumstances when a prominent physician of that city was demonstrating how easy it was to support the perineum with hot towels to relax, and his hand put on in that mysterious way, which was hard to understand, and more difficult to explain; the towel heated with water, held up to the patient in such a way that she would surely be protected, when the muscle gave way under the severe pain, the physician said to Dr. Withrow, "It is all gone, but I saved the towel."

I fail to recall the time when any effort at perineal support did not end in disappointment. The only way to protect this muscle is by leaving the membranes intact until no longer needed, or till the sack of waters lays on the pelvic floor, thus saving the amniotic fluid, until it has exerted its last particle of benefit in facilitating the passage of the head, and when the head is coming too fast hold it back, if possible, until relaxation has taken place; supporting the head by crowding it up into the pubic arch. You may now and then succeed in giving some protection to the threatened perineum. Chloroform is used by many physicians to regulate the expelling force when there is apparent danger of laceration, and some say they can control, at will the frequency of pain, and the rapidity of expulsion, by anesthetics. This seems impossible to me especially when pituitrin has been used, nor do I believe that you can by any means so control these forces, that they are under your will, whether or not a drug has been used. If this were true there would be but few lacerations. One authority makes the strong state-

ment that if the patient be instructed to breathe rapidly during one of these powerful expulsive pains, that the descent of the head will be checked. He might as well have stated that these pains were under the woman's control. In the very next sentence he states the action of the abdominal muscles at this stage are frequently involuntary, and beyond control of the patient. There are many inconsistent statements similar to these found in the leading publications which are so contradictory and misleading, and are confusing to those who expect to prevent laceration by attempting to follow their suggestions. They suffer disappointment, grow skeptical, their faith is broken often when the truth is really stated in regard to this matter. Since it is impossible to prevent lacerations to a large extent, all these unfair statements are finally pushed aside, and you find that the truth is—these tears do come, and you can't stop them, and what is to be done?

If your patient has been made antiseptic, and aseptic the perineum can be repaired with the assurance that you will have union by first intention if done at once, provided *that you have taken the reasonable view of the dangers to suturing this muscle, when not rendered immune by the use of bacterial vaccine*. Whether you are ready for this or not the time is now here when these conditions must be met by an opposing force; it will not only assist in securing union, after suturing has been done, but will protect your patient from puerperal infection, and the time is at hand when all obstetric patients, not later than the second day after confinement, or better still, before labour begins, will receive an immunizing dose of vaccine, and which also have an effect to protect the patient against the contaminating influence of the physician's soiled hands, or gloves, and sound the death knell to puerperal infection. There have been so many flattering reports from the immunizing of lying-in patients, that we are more certain than ever that it will soon be common practice. One physician reports one hundred and twenty-nine patients immunized one day after confinement; twenty-five had laceration of the cervix, sixteen were sutured for lacerated perineum, and in every sutured case union was had by first intention. All of these patients in private homes, or tenement houses. No infection occurred in any of them. The death rate from puerperal septicemia has been decreased steadily by the employment of vaccine. In my own practice I have witnessed beneficial results in several patients, with puerperal infection. I have seen it used after all other methods of treatment had failed, and the patient recovered. In one instance a case of three weeks' standing was given stock vaccines three times;

the temperature was reduced to normal in four days, and she got well. Another case when the perineum had been sutured, but failed to unite on account of sepsis, two doses were given fifteen hours apart, the perineum took on a healthier appearance and united, the fever disappeared and in fifteen days she was well. I was requested by a neighboring doctor to see a patient who had aborted four days after the occurrence. The placenta was adherent, was removed; vaccines given several times. It was an aggravated case: continued fever for many days, abscess forming on the biceps of the right arm. She was kept under the influence of vaccine for fifteen days and recovered.

My experience has been the experience of many physicians, who have failed to report every case of puerperal infection; the result is there have been many more than we have a record of.

No one can tell where septic material gets its entrance into the system, probably more frequently through the uterine cavity; often through the tear in the cervix; perineum, and doubtless through small abrasions in the wall of the vagina, which cannot well be located. I am firmly convinced that the important thing to do is to give an immunizing dose of vaccine, as least to all cases where there is the least suspicion of infection, and to the patient to be operated upon, or to be catheterized.

DISCUSSION.

J. O. Jenkins, Newport: I do not know that I can add anything to what Dr. Clark has so well said. The perineum and pudenda are naturally liable to infection. It is a point of drainage of the person and therefore is subject to many little troubles that may be operative at the time of a confinement or later. This is one reason why we find infections occurring there after lacerations, and injuries produced by the passage of the child's head.

The douche has been spoken of as a requirement preceding labor. In some little experience I have had in this line, it seems to me a bad policy. If you are sure you have got infection there, that the tract has been infected then or at any previous time with gonorrhoeal or other infections, it is well enough then to prepare the patient with a preliminary douche, but nature has well taken care of this part of the body. The mucous lining of the vagina secretes a tenacious liquid which assists materially in the passage of the child's head. If you deprive the vagina of that secreting surface, the head will not pass as freely and as smoothly as if you had not done so. There are some cases where the patient's vaginal surfaces are in a feverish condition. These patients are hard to deal with because of the delayed progress of the head and the intense

pain, and the tissues being hard, dry and firm. The tissues are not pliable. If in such conditions you have annointed the parts with sterilized vaseline or sweet oil, you will find the progress more satisfactory. I do not make it a rule to douche before labor unless I am satisfied some infection has been resident there near the time of delivery; then I believe it is the thing to do. But bacteriologists and experience have taught us we cannot sterilize the vagina. It is an organ that cannot be sterilized and never has been. It has been my practice sometimes to assist in the dilatation of the os or vulva with a little maneuver which may perhaps be criticised or found fault with. After the os has dilated to fully one-third I have sometimes made it a practice, where I found the progress was unsatisfactory, and I might expect a rupture of the perineum because of the hard, undilatable condition of the tissues, to assist the dilatation with my fingers by drawing the perineum firmly backward towards the coccyx carefully, exercising my best judgment as to the amount of force to be exerted. This should be done at the time of a pain, not between pains. The act has been criticised by operators. The maneuver may be bad or not, but it is satisfactory in some cases.

Premature rupture of the membranes, as we all know who have had any experience, is a thing to be condemned strongly. If the membranes are ruptured before dilatation is one-half or three-quarters complete, you have delayed the case and will have subjected the woman to more agony and perhaps laid the foundation for an instrumental delivery, without achieving the relief sought. Rupture of the membranes to hasten the labor and to get home early is a mistake. It is the best way I know of to delay matters and keep you from using your theater ticket.

W. W. Anderson, Newport: As to Dr. Clark's condemnation of the use of ergot and pituitrin before the first stage of labor is completed, when one of our younger men boasted of his success with pituitrin, I asked him what his reason was for using it, whether he did not find it increased the damage on account of haste, and he said he was not sure of that. His confession indicated that he has not been a close observer of whether it was doing damage or not. He said to me, "Doctor, what is your objection to pituitrin when the cervix is fully dilated?" I replied, "Doctor, I will answer that by asking you a question. What is the use of pituitrin when the cervix is fully dilated?" If you want things to move along, if there is uterine inertia, why can't you apply forceps? You can control that force but you cannot control the forceful action of pituitrin or of ergot. I would urge our young men, who are inclined to take up new things with great enthusiasm, to use more caution.

Joseph J. Back, Newport: This subject has been discussed pro and con, and as one of the younger men of the profession I desire to say

I have had the opportunity of using pituitrin on several occasions. When the cervix is fully dilated, if we look to our nerve supply of the vagina, if we look to the compulsory forces that bring out the baby, we will find and know from experience that when the head has been expelled from the uterine cavity there is a uterine inertia to take place. Why, we do not exactly know, but it does occur. We have uterine inertia at that time. In those cases I do not think the use of the forceps is the essential thing, but I believe pituitrin is indicated. I have used pituitrin in over twenty cases within the last two years, and I will say this, I have not had any lacerations that were more extensive than I have had prior to that time.

As regards the infection following labor, as a young man, let me suggest one thing to the older men, namely, that a case of labor is a surgical procedure. There is no question about it. What man of you, who had a surgical case would take that case after operation and allow it to lie in the same position, in the same mass of debris that you took from it, the same as you would a confinement case. How many of you gentlemen who have taken cases of obstetrics to good, well regulated hospitals, have had infections? Show me the home in which you have delivered a baby and I will count your number of infections. Tell me of your nurses and I will tell you the number of infections. It is true, the country doctor, or the doctor outside the vicinity of the hospital, cannot take all of his cases to hospitals, but I will say this: We have no right to deliver a woman in a bed covered with a dirty sheet plus a number of newspapers, covered by an oilcloth which has never been cleaned, and allow debris or filthy hands to come in contact with these things and then afterwards allow the woman to become infected. Ninety-five or one hundred per cent. of infections of the parturient canal are the result of second or third day infections. You very seldom find a woman after the third day having any infection. It is not due at the time of birth but subsequent to birth and due to our using unclean methods. Our nurses are more responsible for infections than doctors. I condemn some women who represent themselves as nurses who do not do these things properly. There are women who would not take an abdominal case, but they will take an obstetrical case for the measly, paltry sum of one dollar, and we doctors should protect ourselves against those individuals who are carrying infection, posing as nurses when they do not know what infection means.

J. H. Caldwell, Newport: In the use of one of our newer remedies Dr. Clark has criticised pituitrin, and I want to defend it to a certain extent. I do not want to be understood, however, as saying that pituitrin should be used indiscriminately by any means. It is a powerful drug, and it has its place, but we must know its place. I remember very well the first time I

used it, in less than five minutes after I gave an injection of pituitrin I was sorry for it. It was a case in which there was full dilatation. The woman was a multipara; there was plenty of room, the position was normal, but the patient would not give any assistance from her own strength. She would cry out and ask me to use the forceps. I had read up on the use of pituitrin some two and a half years ago when it came out, and I thought this was a case in which to try it. There was no obstruction. The baby was born twelve minutes after I gave the pituitrin; there was full dilatation of the cervix, there was plenty of room and there were expulsive efforts which pushed the child right out. If there had been any obstruction I believe I would have ruptured the uterus. Therefore, if you use pituitrin, be sure that there is nothing to obstruct the passage of the child.

Another place for the use of pituitrin that has not been mentioned is in postpartum hemorrhage. There is no agent that I know of that will act so quickly on involuntary muscles as pituitrin will, and where you have an exhausted condition on part of the mother and uterine inertia, there is nothing like the hypodermic use of pituitrin to cause uterine contraction. I have used it in surgical cases to cause contraction of the involuntary muscles of the intestines.

As far as infections are concerned after delivery, I have been rather fortunate. I have delivered some cases in the most filthy places that exist in this part of the country, that is in some of our slum in Cincinnati, doing clinic work for the college, and you know what places we get into. But I will say, I have always had the assistance of a good trained nurse in these cases, and so far we never have had any serious infection.

As far as getting healing by first intention after suturing the perineum is concerned, I have been fortunate so far in that I also got healing by first intention in all cases.

As to giving immunizing doses of vaccine, that may be a very good thing. I have often thought of that, and some men are doing it in surgical cases, but it may lead to carelessness, some may think there is no use in being careful. You may consider the patient is immune anyway, and you go ahead with your obstetric operation without so much care. However, I think vaccine therapy has its place also.

As for rupturing the membranes, if I understood the essayist correctly, he said that we should never rupture the membranes. I have been guilty of that. If there is full dilatation of the cervix and the pains stop, and you have a bulging membrane it has served its purpose, the membrane is hard to rupture. I generally rupture the membrane myself under such circumstances.

P. D. Gillim, Owensboro: I want to add my mite of praise to the most excellent paper read

by Dr. Clark. I also want to add to Dr. Anderson's discussion a word of caution in the use of that most powerful drug pituitrin. It has not been mentioned that pituitrin is killing unborn babies, in that it produces a great deal of shock to the baby in utero, consequent on its effect in producing unnatural and unceasing long contractions of the uterus. One gentleman in his discussion of another paper suggested that we should now have in our societies a teacher to teach more care and more thoroughness in the treatment of fractures, and that has been my experience, and I want to say in this connection that there is more crude work done in repairing the perineum than in any other work that physicians have to do, and that is one cause why so many of our patients must be referred to surgeons afterwards.

Arthur T. McCormack, Bowling Green: If all that has been said about pituitrin is true, it ought to be used very rarely. From my own experience, I do not think it does much good in the cases that are proceeding well. In fact, I doubt whether it should be used in such cases, and if it is useless in them, there is little reason for using it at all. I agree with everything that has been said in that respect.

H. C. Clark, (Closing): I knew my paper would stir up the members. As to the first stage of uterine inertia, I do not think any intelligent physician would use anything improperly, nor hesitate to use quinine, strychnine or forceps, if the head could be grasped. You would not hesitate to do what you possibly could to put the patient in aseptic condition, no matter what was going to take place after or during confinement, provided you had the time to do so.

I am not an extremist and do not say that I never use douches at all. The reason it has fallen into so much disrepute is because some practitioners have used it every two hours after confinement. I can remember very well when this was done, and I am not making an argument to defend the douche entirely, nevertheless it has its place. It would be entirely too late to lock the stable door after the horse was stolen. One gentleman says that if you have infection from gonorrhea or any other kind of infection, then is the time to go to work. How can you always find that out at that time ?? Another speaker said it would be dreadful to have soiled sheets on the bed or soiled clothing on the patient. How are you going to prevent that when you are called in? You hardly have time to take care of your hands out in the country, before you have to use them. I have taken the ordinary precautions about my hands; I have used rubber gloves, but I have seen some practitioners take the rubber gloves out of their satchels, and they were not in the country either, and put them on and use them when I was satisfied they were running a risk by so doing as they were dirty.

Another Speaker spoke of using medicated

vaseline in cases of obstetrics. Who ever heard of using vaseline to facilitate the passage of the head? The author of the book from which I quoted says that we should make a digital effort at dilatation between every pain. Is there any man who would endorse that sort of conduct? Not one, save himself. When the head of the child is down on the floor of the pelvis and you have uterine inertia, strychnine would be safe I should think. I have used it with good results a great many times, and I am sure that if you ever need a pair of forceps and want to use them this is the time, but the man who uses forceps should not keep them on until the child is delivered. Forceps are not intended for that purpose. You may introduce one blade of the forceps, start up contractions, and that would do the work itself by stimulating the uterus to contract. You have seen that done many times. The use of forceps is not so dangerous as many practitioners suppose. I have used forceps in many cases and have never produced more laceration with instrument than I have without; nor have I seen so many dead babies from the use of instruments as from the use of ergot. You may as well use ergot as pituitrin. One gentleman told me he had two ampules of pituitrin. He gave one, and in half an hour repeated it. He was a Cincinnati man. The patient had no more pain, but there was inertia and he had one of the worst cases of postpartum hemorrhage he has seen in his life. This inertia is a thing that sometimes follows that remedy and it also follows the use of ergot. There may be a place for pituitrin. I believe practitioners should resort to it in case of postpartum hemorrhage. While it may be indicated in such cases, I think you are apt to lose its effect in half an hour, or at least in one hour, therefore it is necessary to repeat the dose frequently and continue the use of other remedies which have proven of value in hard fought battles in the past.

Abdominal Incisions and Intra-Abdominal Pressure.

—In four cases the esophagus was ligated by Horan through an incision in the neck, after placing a glass tube in the stomach, making the tube as secure and air-tight as possible with a ligature. An incision was made parallel to the umbilicus through the right rectus, and the rectum was ligated. The incision was closed in the ordinary manner, pressure being applied in all four cases to the full amount of the automobile gauze, viz., 120 pounds, and after the amount registered in one case, the pumping was continued until the abdomen looked to be twice the normal size. No hernia protruded in either case.

THE FORUM

MY DEAR EDITOR:

The longer I linger, the more I discern,

That this world of ours is a queer concern.

I have just finished reading the November 1st, issue of the *JOURNAL*. While I was very pleased with many of the reports to the House of Delegates of the various counties of the State, I was terrified when I came to Lincoln and read the speech of the delegate, my friend Dr. Carpenter, of Stanford, "One meeting of two hours duration in 1914!" Matters seem to be "balled up" and out of tune in a county formerly always to the fore, but now growing (?) like the tail of a bovine, down hill. My interest in this society has never flagged, although I have been away for years; it was my first love, and I feel as if I must ask permission for a word concerning it. I hope the members thereof will not consider me a "butt-in-ski"—my intention is good. If so, I beg pardon.

Sermons seem longest to people who have most need of them, but I'll be brief and to the point. A house that needs repairs is going down hill; and a house that is going down hill is losing value—value in money and in comfort. The owner, then, should arouse and look around the premises and see how they could be improved. It might not induce him to do more than "rake up the sticks" that are lying around. That would be a great help alone. But, maybe, while raking up the loose leaves, he would find a loose board in the sidewalk, a broken picket in the fence, that the corner of the porch has sagged, or that the front steps need a new plank. And, as he would want to make a complete job of it, he would see that these repairs are made. From this allegory, you may make the application.

I would suggest a "Spring cleaning." My long experience in Secretary work induces me to say that the most sensitive part of the human machine, (especially among doctors) is the tip of the tongue—it is worse than stepping on your corns. Anyhow, we should be careful in an undue use of the "unruly member," and, when in doubt as to whether to say something that won't do any particular good, you won't lose anything by not saying it. Remember, the greater the Saint, the greater the sin. Any organization may need outside advice, but it should not be promoted by outsiders. The doctor's advance must come as the result of his own efforts; his progress must develop from within, rather than from without. A medical society, to be successful, calls for intelligent, enthusiastic, harmonious self-sacrificing work on the part of each mem-

ber. "United we stand, divided we fall"—remember Kentucky's motto. The nobleness of life depends on its consistency, clearness of purpose, quiet and ceaseless energy. Do the duty that lies nearest to you. Every duty that is bidden to wait returns with seven fresh duties at its back. Every one has an ideal, then why not attain it? You can do it.

"Make my mortal dreams come true

With the work I fain would do;

Clothe with life the weak intent;

Let me be the thing I meant."

Be punctual in attendance at the meetings, whether it suits your convenience or not. Go with a purpose for social and professional enjoyment. Make no excuses for yourself. A man's thinnest, flimsiest excuses are the ones that cast largest shadows of suspicion. Twenty members should compose a most healthful society. Resolve to rehabilitate "the Old Girl." Set the mind toward the thing you would accomplish so resolutely, so definitely and with such vigorous determination, and put so much grit into your resolution that nothing on earth can turn you from your purpose until you attain it. Believe in yourself with all your might. Do it to-day, tomorrow never comes. Bear in mind, also, that the road to the Kentucky State Medical Association is shorter than the road to Tipperary. Just another word or two in closing.

I am very grateful to Dr. Carpenter for his compliment in coupling my name with our revered friends, Drs. Brown and Wesley. They were gentlemen of the Old School, broad-minded and liberal. Their presence at a society meeting was an inspiration—all was well when they were near us. They came because they loved to come; to instruct and be instructed. No petty nor jealous motives ever entered their minds, and ever ready were they to pour the oil upon any turbulent waters. Their like may not soon be seen again.

The amusing part of a paragraph, not intended by the speaker, but constructed, in a hurry, by the stenographer, was the expression that "my clay, too, with long oblivion, had gone dry," which, I am proud to say, is not the case. To the uninformed, however, the inference would be that I was in "limbo." I am here: sheltered, curled up, and contented by the "world's warm fire." It was the funny part, the mistaken identity, that made me smile audibly. However, it is all right.

So the world goes. So the stream flows. Yet there is a fellow whom nobody knows (the Leveler) who maketh all free on land and sea, and forces the rich, like the poor, to flee.

I am as ever, yours, etc.

STEELE BAILEY,

Mammoth, Utah, Nov. 10, 1914.

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ORIGINAL ARTICLES

HYPERNEPHROMA OF KIDNEY, WITH REPORT OF CASE AND EXHIBI- TION OF SPECIMEN.

By O. H. KELSALL, Louisville.

Hypernephroma of the kidney may almost be said to be a tumor without a name because the word hypernephroma does not signify any pathology, as is the case with nearly every other tumor. The word simply means tumor above the kidney or tumor of the adrenal gland and was adopted only as a compromise to signify a tumor occurring in the kidney with certain characteristics, after an endless dispute as to the nature of the tumor, which continues to this day. There has been such a diversity of opinion as to the nature of this tumor that in different hospitals, it has been variously classified as, angiosarcoma, perithelioma, endothelioma, carcinoma, etc. According to Garceau all these tumors had certain characteristics, namely, large polyhedral cells, which are placed in close proximity to small capillary blood vessels, an occasional papillary arrangement in places, and an alveolar arrangement in places, the alveoli containing characteristic cells. Of late years, by common consent, tumors possessing these characteristics, have been called hypernephromata.

ETIOLOGY.

Grawitz in 1883 first described accurately this tumor occurring in the kidney, which had previously been supposed to be lipomatous because it had in portions the yellow color of lipomata and also had alveoli. Graw-

itz held that these tumors sprang from the aberrant adrenal tissue that is so frequently found in the kidney and this view has been adopted by the majority until recently. In the current comment of the *Journal A. M. A.*, Vol. lxii, No. 1, occurs the following:

"Aberrant epithelial structures in the cortex of the kidney and their relation to so-called hypernephromata. The so-called hypernephromata are undoubtedly the most frequent malignant tumor of the kidneys. Until quite recently these tumors were regarded as originating in aberrant adrenal tissue most commonly believed to occur immediately under the capsule of the kidney. This view was advanced by Grawitz in 1883 and the tumors in question are frequently referred to as "Grawitz tumors." This conception of the origin of these tumors was based largely on the similarity between the tumor cells and the cells in the adrenal cortex. Specks and patches of a yellowish or greenish-yellow paler than the renal cortex are frequently found in the surface of the kidney and these structures are held usually to be bits of misplaced adrenal tissue. Renal hypernephromata consequently have been regarded as a good illustration of Cohnheim's supposition that malignant tumors develop from misplaced embryonal matrix, a conception of which we hear much less now than we did some years ago.

Of late, the view of Grawitz in regard to hypernephromata has been attacked by various men. Thus Stoerk pointed out that such tumors do not occur in the adrenals, the primary tumors of which are of a different structure and that the most common site of Grawitz tumor is the middle zone of the kidney, whereas the supposed adrenal rests

occur most often near the upper pole of the kidney.

Wilson and Willis (*Jour. Med. Research* 1911, xxiv, 73) regard the hypernephromata as developing in rests of nephrogenic tissue, they base this conclusion on elaborate embryologic considerations and Glynn emphasized that while abnormal sexual development is frequently present in cases of tumors of the adrenal cortex, it is not observed in cases of Grawitz tumor.

In view of all this opposition to Grawitz's explanation, it becomes a matter of importance to subject the peculiar patches in the renal cortex just mentioned to close study in order to understand their true nature better and from Dunn's observations on 80 consecutive autopsies we learn that such masses are, in first place, not at all infrequent (as is already known), and furthermore, that they represent 3 distinct types, namely, true adrenal rests, adenopapillary tissue and papilliferous cysts. The cells in the latter in particular resemble the bloated cells of the Grawitz tumor and while malignant growths may be conceived to arise from any and all of these formations, the papilliferous, from their peculiar histologic features, suggest themselves as the most probable origin of tumors of the Grawitz type. (Dunn). These cysts appear to originate from the tissue of the kidney itself and in one case Dunn was able to trace a definite connection with a convoluted tubule.

These results indicate that further systematic studies of so-called adrenal rests in the kidneys are desirable and that additional insight may be secured thereby into the nature and origin of malignant tumors of the kidney."

The biggest majority of cases occur between the ages of 50 and 60. The youngest patient was Cheeseman's, a male child, a year and a half old, who had a tumor weighing four and one-half pounds removed and recovered. The oldest patient was Driessen's, a male 79 years of age.

Males are more prone to the disease than females. One hundred and fifty-seven cases have been collected of which 71 were in males and 45 in females. The right side is a little more frequently affected than the left.

The growth is very rarely bilateral and when such is the case one side should be considered as a metastasis.

There is very little evidence to show that a blow in the region of the kidney has anything to do with the development of hypernephroma.

Heredity seems to play very little part in the etiology of this disease. Albarra and Imbert in a list of 412 cases found only 5 cases in which heredity may have played a part.

Hypernephromata are by no means confined strictly to the kidneys but occur in primary tumors of other structures. Keen, Pfahler and Ellis found 3 primary cases in the adrenals, 2 in the liver and one in the uterus.

SYMPTOMATOLOGY.

There is abundant evidence that the tumor may remain latent in the kidney for many years and not give rise to the production of symptoms. In such cases, the tumor is of small size and does not interfere with the function of the kidney. Sometimes the growth may not be very large but it still may give rise to metastasis and result in death. The small growths may be apparently benign but potentially malignant.

Hypernephroma, as a rule, has a slower course than malignant disease, elsewhere in the body. The tumor is frequently discovered by accident, either by the patient or by the physician, who happens to make a thorough examination. The long duration may be due to the resistant capsule of the kidney. If the chief cardinal symptom of hematuria is absent, the tumor may remain undiscovered for months or years without giving any evidence of its presence than occasional pain in the region of the affected side. Possibly hypertrophy of the sound kidney has something to do with the long duration of the disease, the sound kidney taking on the function of the diseased kidney. If the sound kidney because of an attendant nephritis fails to take on additional function, the disease may be of very short duration, cachexia and emaciation rapidly supervening and ending in a speedy death.

In some cases, a fairly large tumor may give rise to no symptoms and is found accidentally on the autopsy table. These cases are apparently benign but if the individual lives long enough malignant characteristics may occur. Hypernephroma presents three distinct cardinal symptoms, hematuria, pain and tumor. When all these symptoms are present, especially in a patient in middle life, we turn instinctively to a diagnosis of malignant kidney tumor. At first the general health may remain good but sooner or later we have emaciation, weakness, etc.

Although hematuria, pain and tumor are mentioned as the three cardinal symptoms it is not every case that has all three symptoms. The diseases may be ushered in by any one of these symptoms and the others may appear later. Pain is due to pressure, or involvement of the lumbar or sacral nerves by extension of the growth. It may be due to vascular engorgement of the kidney, the rigid capsule preventing expansion of the kidney. Sometimes the pain is like renal colic, due to

passage possibly of a blood clot or shred of tissue through the ureter. Pain may be due also to blocking of the ureter by the malignant growth. The pain is usually located in the lumbar region of the affected side but may radiate into chest or down into the genitalia or buttocks or thigh. The pain varies in intensity from moderate to severe enough to cause death. It may come on at any time of the day or night, and has no relation to movement. The pain may be a dull ache in the lumbar region or it may exacerbate or there may be fairly long intervals with no pain whatever. Pressure over the kidney does not always increase the pain but sometimes the patient is unable to lie on the affected side. Occasionally pain does not appear until late in the course of the disease.

Hematuria is perhaps the most constant and important symptom of this disease. The cause of bleeding in the early stages is probably an intense congestion of the renal parenchyma but later, it may be due to erosion of the blood vessels, especially in the renal pelvis and calices, giving rise to the copious hemorrhages, we sometimes see. The hemorrhage may come on at any time of the day or night and is independent of motion, in contradistinction to other painful affections of the kidney. The hemorrhage may be accompanied by severe pain or the patient may have no pain at all. The duration of the hemorrhage is very variable in the different cases. It may be of a few hours duration or it may last several months or there may be in a few cases no hemorrhage at all. Hematuria occurs as the sole symptom in a certain proportion of cases and these are the cases where the tumor is usually small and a diagnosis, short of an exploratory incision is very hard to make.

The tumor may be so small as to escape notice, especially when situated in the upper pole and well within the parenchyma. It may also be as large as the adult head. The growth generally is the shape of the kidney and this helps to differentiate it from splenic enlargement, if the affection is on the left side. The usual seat of the tumor is in the lumbar region, extending toward the abdomen in the direction of least resistance. Tumor is present in the vast majority of cases and is sure to be recognized if large enough. It is an unfortunate circumstance when the tumor is small and in the upper pole, thus rendering its recognition difficult, but we are helped out somewhat in these cases if hemorrhage occurs early, for if the hemorrhage is not readily explained by the cystoscope, there should be no hesitancy in doing an exploratory nephrotomy. In Garceau's list of cases tumor was mentioned 143 times, 17 times it was absent, and in 16 cases no mention was made of its presence. If the tumor is large

and adherent it is not very movable but if not very adherent it is movable.

In the male, varicocele has been frequently noted as an accompaniment of hypernephroma.

When stomach symptoms are present it suggests metastasis.

The duration is very variable, and is very hard to estimate as the disease may be present a long time before it is recognized. Keen, Pfahler and Ellis give the duration as from 15 weeks to 8 years with an average duration of two years and three months. Richards in 40 cases found an average duration of two and one-half years. The duration of the disease is very much shortened by the appearance of metastases.

No part of the body is free from metastases, thus, the brain, bronchi, lung, diaphragm, gluteal region, heart, intestines, liver, thoracic duct, omentum, pancreas, pleura, peritoneum, skin, uterus, etc., have all have been reported. Not very infrequently, the recurrence occurs in the scar of the wound made years before in removing the growth. Sometimes the disease may run its course and the only metastases be in the bones.

The diagnosis of hypernephroma is one of the most difficult to make and is generally made at time of operation. We must consider both the subjective and objective symptoms. A patient in the prime of life, suffering from intermittent hematuria and it is known to be of renal origin, if he has little or no pain and no urinary retention and if the hematuria cannot be accounted for by the presence of other kidney disease, may be suspected of having hypernephroma. The previous urinary history of the patient should be very carefully inquired into especially in reference to hematuria. The patient's general health is quite important. While early in the disease, the general health may be very good, if we find that later the patient has been gradually losing ground without having periods of improvement, that in itself is suspicious of malignant disease. Cachexia may be absent a long time and an early diagnosis may be impossible. A thorough physical examination should be made in our search for metastases. The presence of portions of the growth in the urine though seldom seen is quite an aid. In the absence of hematuria, this disease is very difficult to diagnose, and has been mistaken for every other form of abdominal enlargement. The relation of the growth to the intestine is sometimes an aid in diagnosis. The descending colon is pushed forward and inward by this growth and may be percussed for. Again there is no line of tympany between the kidney dullness and the

spine as there is in the case of splenic dullness.

Tubercular kidney is at times confounded with this disease but we know that this occurs most frequently between the ages of 25 and 35, there is abundant pyuria and if we are unable to find the bacilli, inoculation of guinea pigs is conclusive.

In calculus disease, the hematuria is aggravated by movement.

Nephretic colic is suggestive in this trouble and the X-ray is of help.

Hematuria is sometimes a symptom in floating kidney but the characteristic signs and symptoms of this condition should enable us to make a diagnosis of the same although we should remember that it is possible for hypernephroma to develop in a floating kidney.

There are quite a number of other causes of renal hematuria which should not be difficult to differentiate and the writer will not unnecessarily prolong his paper by a minute discussion of the same.

TREATMENT.

Palliative treatment offers no hope whatever. Hemorrhage may weaken the patient and cause death, metastases may occur, so the earlier the operation, the more hope of a permanent cure. Operation, whether by the lumbar route, the mortality was 22 per cent, while in 84 cases in which the abdominal route was selected the mortality was 23 per cent.

The same disappointments are seen following operations for hypernephroma as are seen for malignant disease other than this condition under discussion. There is the same tendency to recurrence. One can never be certain that the disease will not return even after the most thorough operation, but of course the more thorough the removal of the growth, the more apt will there be no recurrence. Metastases have been known to occur as late as 11 or 12 years after the primary operation.

HISTORY OF CASE.

Mrs. C., age 56. Case referred by Dr. Crutcher of this city. Family history negative. She gives a personal history of the usual diseases of childhood and has never had any severe illness until the inception of the present trouble. She has suffered with her back for the past twelve years, the pain being in the left loin for the most part but lately has radiated down into the left groin. She gave a history of intermittent hemorrhage from the bladder for the past six years, at times this would be very little and at times very profuse. This hemorrhage was nearly always accompanied by severe pain, probably due to the passage of clots in a measure.

She would go for months without hemorrhage and then all of a sudden would be seized with severe pain and a hemorrhage would ensue. During the past two years it was at times necessary for her to go to bed for a few days on account of the pain in her back.

The tumor was not suspected by the patient until about three or four months previous to the last severe attack of pain. The writer was called to see the patient about July 24th, this year and found patient suffering a great deal, with high fever and rapid pulse. There was rigidity of the entire left side of the abdomen. Apparently a large kidney mass could be palpated but could not well be made out on account of the rigidity. On inspection a bulging could be seen stretching the left flank and extending anteriorly somewhat. An examination of the urine revealed at this time a few pus cells, a trace of albumen, and microscopic blood. The specific gravity 1022. She seemed to pass a normal amount of urine. On account of the acute condition present, it was decided to treat the patient expectantly for a few days.

On the morning of July 26th, last, the patient experienced sudden relief, there was a large gush of blood from the bladder, the pain subsided and temperature and pulse dropped. The patient was removed to the infirmary on the 27th and cystoscoped by the writer on the 28th. By this time the macroscopic blood had disappeared from the urine. The bladder wall was somewhat injected, the left ureter was stellate and nothing could be seen coming from that side but normal appearing urine could be seen coming from the right kidney. No functional test of the kidney was made.

An examination at this time of the mass was more satisfactory as the rigidity of the abdominal muscles had subsided. This mass could be plainly felt in the left lumbar region posteriorly, between the margin of the ribs and the iliac crest, and extending anteriorly and up into the hypochondrium somewhat and downward into the left inguinal region.

A diagnosis of kidney tumor was made, and the presence of hypernephroma considered.

She was operated on July 29th by the left lumbar incision, the incision curving over the iliac crest and extending almost to the sheath of the rectus. The tumor was removed without especial difficulty. For 40 minutes, so my anaesthetist stated, the patient was without pulse so far as he could detect and it was necessary for him to use stimulation almost throughout the entire operation. The operator had a good view of the diaphragm movement through his incision and this showed the respirations to be uniformly good.

Proctoclysis was used to a large extent.

During the first twenty-four hours only 11 ounces of urine was obtained per catheter, during the next twenty-four hours 17 ounces were obtained. The urine increased daily in amount and by the 4th day, the amount was 50 ounces or more. An examination of the urine one week after the operation showed a normal urine. The convalescence of the patient was without further untoward incident except for a slight infection of the incision. The patient was discharged from the hospital August 29th, and her improvement in health has been uninterrupted and she has gained 17 pounds.

Examination of specimen by Louisville Research Laboratory on July 30th, 1914. Tumor larger than a grape-fruit, involving lower half of left kidney. Cross section shows tumor to be soft and necrotic.

Microscopical masses of epithelial cells of the adrenal type. Cells containing fat droplets and showing areas of necrosis. Diagnosis, hypernephroma.

NEURITIS.

By JNO J. MOREN, Louisville.

All authors give two types of neuritis.

1st. Interstitial, or true neuritis, in which the inflammatory reaction takes place in the interstitial tissue and causes secondary degeneration of the peripheral nerve fibre.

2nd. Parenchymatous, or degenerative neuritis, in which there is a primary degeneration of the nerve fibres. A typical example is optic atrophy seen in locomotor ataxia.

There is a third type accepted by many authors, namely, Gambault's peri axillary segmental neuritis, a very slight form of nerve degeneration in which the myelin of the nerve is disintegrated only in a few segments of the nerve which the axis-cylinder remains intact.

Interstitial neuritis may be limited only to the neurilemma when it is called perineuritis. If the inflammation extends to the whole nerve, it may be classed as diffused neuritis. This process may be acute or chronic. The causes of neuritis are manifold. It may be stated as blood including all toxæmic conditions, local as from injury, local inflammation, etc.

Interstitial neuritis is present in most types of neuritis, including multiple neuritis. Some authors regard multiple neuritis as a parenchymatous neuritis while others regard it as interstitial. In this type of disease, there is a degeneration of the axis-cylinder and it is difficult to say whether the process began in the connective tissue or the true nerve tissue. Evidence of both have been noted; hence the difference of opinion.

After a nerve is severed, it matters not what the nature of the lesion may be as they

all produce secondary degeneration of the axis cylinder beyond the location of the lesion. Single nerve lesion and neuritis extending from inflammatory lesions in the immediate neighborhood are regarded as of the interstitial type; some may be limited only to the perineum while others may be diffused and result in a secondary degeneration.

In the chronic cases, there may not be degeneration of the true nerve fibre but show a hyperplasia of connective tissue and cause a thick and bulging nerve at that point. If this increase of connective tissue should compress the nerve fibres, we would have secondary degeneration of the peripheral end.

In traumatic neuritis, we may have an interstitial neuritis with secondary degeneration but in most instances the injury is done to the nerve by the trauma itself, the myelin sheath is ruptured, hemorrhage occurs with injury to the axis-cylinder and secondary degeneration. The same process may follow pressure as in crutch-palsy or lying on the arm resulting in musculo spiral paralysis.

When a nerve is cut or otherwise severed, secondary degeneration begins in the whole peripheral fibres. The myelin breaks up into a mass, the axis-cylinder degenerates leaving only the sheath of Schwann. If regeneration does not occur, all that remains of the former nerve is a band of connective tissue. Complete degeneration is complete in about two weeks.

The cut end of the nerve becomes swollen into a bulbous extremity by a growth of connective tissue and by the development of fine nerve fibres in process of regeneration.

Regeneration begins in about two weeks. A difference of opinion exists as to the process of repair. The idea of Ranvier that the regeneration by extension of the central end is still regarded as the most plausible explanation. Others believe that the cells in the sheath of Schwann have much to do in regeneration of the peripheral end.

The symptoms of neuritis will vary according to the nerve or nerves affected. Individual motor, sensory, or combined nerves may become involved, hence the variations. The symptoms will also vary according to the degree of pathology taking place in the nerve.

If a combined nerve is completely severed, there will be flaccid paralysis and anaesthesia of the parts supplied by the nerve. The muscles deprived of their nerve supply will show the reaction of degeneration to the electric current.

The nerves carry all impulses controlling motion, sensation, secretory, vasomotor, reflex and nutrition, consequently, lesions involving the peripheral nerves will be manifested by a disturbance of these functions.

Motor and sensory as a rule suffer most,

Taking all varieties of neuritis, single or multiple, loss of strength or paralysis is the most prominent and frequent symptom. This may be only a slight diminution of muscle strength to complete paralysis. In many instances, even in combined nerve lesions, there are but slight sensory symptoms. The most pronounced case of multiple neuritis from alcohol that I have ever seen, showed only a delayed sensation. This predominance of motor symptoms is shown in pressure paralysis, as crutch palsy. In the early stages, tingling, etc., or paraesthesia are present, but anaesthesia or loss of sensation is not in proportion to loss of motion.

Several suggestions have been made to explain this, for instances, collateral innervation; that the sensory fibres are in the center of the nerve and suffer less; that the sensory fibres are more capable of resistance and regeneration.

These suggestions have been changed by the investigations of Head, who demonstrated that complete anaesthesia did not occur by section of a peripheral nerve. Head severed a nerve in his own body and made minute tests of the degree of anaesthesia. The results in his own case were confirmed in other cases following injury, etc..

Head believes that the nerves contain different systems of fibres. One set carries pressure sensibility which is distributed along with the nerves to muscles and joints and is not connected with cutaneous sensibility. This would explain the retention of pressure and muscle sense in individual or in complete neuritis.

He divided the cutaneous sensibility in:

1st. The protopathic sensibility or fibres which transmit pain and extremes of temperature.

2nd. Epicritic sensibility or the transmission of light touch and slight variation in temperature.

PAIN.

There are three varieties of pain which may appear in neuritis which are to some extent characteristic of peripheral nerve irritation.

1st.—Paraesthesia; as tingling, "asleep" feeling, burning or cold sensation. Such sensations may occur in anaemic and lithaemic condition and not be an indication of actual neurotic change. However, some authors contend that those cases that persist are dependent upon a low grade of interstitial neuritis.

2nd. The sharp radiating pain as noted in hand or lower arm after traction in elbow, etc.

3rd. Burning pain in the extremities as hands and feet. I have met this pain in heavy beer and whisky drinkers, who showed slight weakness but no actual paralysis or anaesthesia.

In addition to pain, most cases, especially the acute cases, show tenderness along the course of the affected nerves.

Trophic muscle atrophy is present when sensation is diminished, slight abrasions may not be noted as important until they become ulcers. Herpes, it might be shown, personally I have never seen such symptoms.

The glossy or shine skin is characteristic of neuritis. The finger nails curl, the hair may fall out, or in other instances, there may be an abnormal growth. There may be a perversion in the sweat glands.

Should the nerves controlling the reflex as the patellar, tendo Achilles, etc., be degenerated, the reflex will be lost. Likewise, the superficial or skin reflex will suffer.

The vasomotor relaxation, blue, mottled and puffy skin is always noted in typical or pronounced cases.

It is a very common thing to have patients say that they are suffering from neuritis, a term that they use for various painful conditions. Does neuritis exist in these painful affections, as sciatica, painful, shoulder, neuralgia, etc?

Through the investigation of nerve ganglia removed at operations for the relief of trifacial neuralgia, a low grade of interstitial and cell changes have been found. Most authors believe there is a minute pathology in the nerve or ganglia. Small hemorrhages have been found in the brachial plexus following injury, and many of the brachial pains following exposure, may be attributed to the inflammatory reaction in the interstitial tissue with either cell or serous exudation. Dana believes that many cases of sciatica can be attributed to this serous exudate and many other cases have been demonstrated to be due to an interstitial hyperplasia with enlargement and bulging of the nerve.

Dr. Dugan a few years ago exposed a case of sciatica and found the nerve to be very much enlarged. This patient suffered only pain without anaesthesia or loss of motion. Consequently, we may conclude that these true painful nerve lesions without anaesthesia or paralysis may show a low grade of interstitial neuritis.

Bell's palsy or seventh nerve neuritis which follows some exposure to a draft of cool air is often predisposed to be various nutritional disturbances. From the rapid recovery of some cases, we may conclude that the nerve was never completely degenerated. Possibly only congestion with slight serous or cell exudate compressed the nerve to a point of interfering with motion and not to cause degeneration. This explanation will hold true to other nerves. In injury cases as in fracture, surgical operations, compressions from crutch, etc., the extent and duration of par-

alysis will depend upon the degree of damage done the nerve.

Should the injury only cause a disturbance of the myelin sheath, the symptoms will quickly subside, but if the nerve is severed the symptoms will be more pronounced.

DIAGNOSIS.

Ordinarily there should be no difficulty in diagnosing neuritis. The symptoms are local and conform to the distribution of a single nerve or a group of nerves. No spinal cord disease nor brain disease will produce the isolated groups of symptoms that is seen in neuritis.

As an aid to exclude lesions of a segment of a cord, we have the area of the distribution of anaesthesia. Take for instance, the anaesthesia in ulnar neuritis will be limited to the little and half of the ring finger, and extend to the wrist. A lesion in the cord involving the same area will also cause a disturbance of sensation up to the elbow. Such a symptom often occurs in early cases.

In other words, more sensory fibres become involved where they are so closely collected together as they are in the spinal cord.

Local tenderness is characteristic of neuritis. The reaction of degeneration plus sensory symptoms in a localized group of muscles is characteristic of neuritis. Reaction of degeneration occurs if the anterior cells are destroyed. Sensory symptoms may accompany such a lesion but they will be more diffused than in neuritis.

PROGNOSIS.

The majority of cases of neuritis makes a complete recovery.

In injury cases, if the two ends of the nerve can be brought together, prognosis is a great deal better. In old people, neuritis is more stubborn, regeneration is slower and sometimes does not take place. I have seen cases of Bell's palsy in elderly people refuse to regenerate; however, I have seen similar cases make a quick and prompt recovery.

Should the nerve cell degenerate, regeneration would be impossible. Sometimes, we have muscular twitchings and slight deficient muscular strength following the recovery of neuritis, but in my experience, these consequences are of a very slight importance.

Altogether, the prognosis in neuritis is very good, indeed.

The first thing is to try to eliminate any ailment of toxæmia and combat as far as possible, the consequences of such conditions.

For the first few days, the elimination is the only thing to do. Should there be pain, remedies directed to this symptom should be resorted to. In some instances, the strongest sedatives are required, but in most instances, dry heat has proven the most serviceable.

The best policy in all cases of neuritis is for the first ten days or two weeks, use only symptomatic measures. No special therapy, like electricity and massage, should be resorted to in the early stages. After the acute symptoms have subsided, general rubbing and the use of the galvanic current is advisable.

The faradic current has no place in the treatment of the typical case of neuritis, unless it be used to stimulate the muscle after the nerve has regenerated, with the hopes of improving its strength and development. I am satisfied that the galvanic, used in a mild current, passed along the course of the nerve, is of distinct value in promoting nerve regeneration. Strong currents should be avoided; in fact, too long and continuous application of any galvanic current has a tendency to raise the nerve irritability, produce aching pains and interfere with the proper regeneration. I believe that I have seen defective nerve regeneration which could be attributed to too much electricity.

As to the value of massage, there is no question. Any measure having a tendency to favor the flow of blood and lymph in the paralyzed muscle, favors the comfort of the individual and the proper nutrition of the parts. Tonic remedies like strychnia, arsenic, iron and phosphorus, are all indicated. As with electricity, too much strychnia can be used.

One measure can be resorted to that means much to the comfort of the patient and ultimately be to his advantage; is watching the position of the limbs. In multiple neuritis, there is a relaxation of the extremities; the weight of the bed clothes and various positions assumed for comfort favor contraction of opposing muscles. As for instance, the foot allowed to remain in extreme extension, will interfere with the proper relation of the flexor and extensor muscle. By placing the foot in its normal position and kept so by props and avoiding the weight of the bed clothing, the foot will remain in this normal position and prevent contractions, which are very unsightly and troublesome to overcome.

Vaccination Treatment of Tuberculosis.—

Weichert explains on the basis of the side-chain theory Ponndorf's success in treating tuberculosis by systematically repeated vaccination—like an intensified Pirquet tuberculin test, repeated about once a month. He assumes that the skin and mucous membrane are the seat of especially vigorous antibody production as they bear throughout life the brunt of bacterial attacks. Other arguments to sustain this assumption are present, including the success of vaccination against small-pox. The article is continued.

CLINICAL CASES

CANCER OF THE TONSIL.

(REPORT OF CASE.)

By J. GARLAND SHERRILL, Louisville.

Patient, male, white, age 55, born in Kentucky.

Family history negative as to malignant disease and tuberculosis.

Personal History: Had syphilis at the age of twenty. Following that his health was good until five years ago, when he suffered partial paralysis, involving both sides, and to some extent his speech. This paralysis, which was not complete was attributed to his previous syphilis, although he exhibited none of the ordinary lesions of syphilis on his skin during this time, and there is some doubt as to the origin of his paralytic trouble. He had an attack of malaria sixteen years ago. He uses tobacco to excess, and has also been rather a liberal user of alcoholic drinks. He is a machinist.

His present trouble dated back two and one-half months before he came into the City Hospital, at which time he developed considerable soreness in his throat which interfered with his speech to some extent. I saw him for the first time on the fifteenth of May, 1914. Analysis of his urine showed it to be normal, and a Wasserman test was made with a negative reaction. Upon examination, he was found to have a growth on the left tonsil of the cauliflower type involving the entire anterior pillar, extending almost to the uvula and also forward, along the side of the tongue. There was some doubt in the minds of others who saw the case as to whether the growth was syphilitic or malignant, but to my mind the case was clearly one of malignancy. The presence of glandular enlargement under the jaw tended to confirm this opinion. Furthermore, the condition did not present the characteristic ulcerated appearance of a syphilitic lesion. I, therefore concluded that the patient's best chance for recovery lay in very radical operation. As a preliminary to radical operation it was decided to do a tracheotomy in order to avoid the danger of aspiration of blood into the larynx and this was done. The anesthesia was then continued through the tracheotomy tube and an incision was made under the jaw and the submaxillary and enlarged lymphatic glands in the neighborhood were dissected out. Then an incision was made in the median line from the lip downward, through the chin, and the soft tissues pushed back sufficiently to saw through the inferior maxilla. Then, by separating the two sides we were able to reach in and thoroughly remove the growth. Prior to the re-

moval of the growth, the pharynx had been packed in such a manner as to prevent aspiration of blood. The soft parts were then sutured to control the bleeding and the separated bones of the inferior maxilla were united with wire and the skin incision closed.

The patient suffered very little shock, and while there was some suppuration as the result of infection from the secretions of the mouth, still he made a very satisfactory convalescence. For a time he had a discharging sinus on the left side, just below the chin, and there was some mobility of the wired bones which delayed union, but he now has very good union. He has some distortion from the scar, which is a little farther to the right than when it was made, probably due to the overlapping of the divided portions of the jaw.

The tracheotomy tube remained in place for several weeks—as long as there was any discharge from the mouth. He left the hospital on the 27th day of June. He has since complained that there is a tendency for the saliva to flow out over his lip not having as good control as before the operation. He also complains of a little soreness along the side of the tongue which may be due to contact with the rough edges of his teeth, but evidently has no connection with the growth itself.

This man's condition was looked upon by some of the gentlemen who saw the case as being beyond the hope of relief by operative interference. A section of the growth removed was sent to the laboratory, but soon after that Dr. Baldauf left to go abroad, and I have never been able to get a report on it. Soon after this, another patient came into the hospital suffering from a sarcoma of the tonsil which had progressed to such an extent that I deemed it inadvisable to operate, but in the case reported, the operation was so successful and the wound has healed so nicely that I deem it a rather remarkable recovery.

(LATER.)

Microscopical examination by Dr. E. S. Allen shows this tumor to be a carcinoma.

DISCUSSION.

Bernard Asman: I think Dr. Sherrill is to be congratulated upon the result of his operation in this case. It must have been a very difficult one indeed, but the result apparently obtained illustrates the advantage of early operation, where a competent surgeon can be secured, in malignant conditions in any part of the body. It is very probable that similar results could be obtained in cancer of other parts of the body which are so often considered to be inoperable. Therefore, I believe that work along this line should be encouraged. So often we hear surgeons say that when the abdomen was opened, a malignant con-

dition presented and it was immediately closed. It is undoubtedly true that, in many instances, the growth cannot be removed with the prospect of doing the patient any good, but it is equally true that many patients will be greatly benefitted by the removal of the growth, if not completely cured.

Again I wish to congratulate Dr. Sherrill upon the result of his operation in this case.

C. H. Harris: Contrary to the way Dr. Sherrill usually presents his cases, he has made a rather incomplete report in this instance. I have never seen a cancer of the tonsil, but it seems to me that one would need to have a great deal of confidence in himself to make diagnosis of cancer of the tonsil and operate for it, and in Dr. Sherrill's case I believe I would have given anti-syphilitic remedies a pretty thorough trial. I believe this man's condition would be improved if he would see a dentist and have some of those snags removed, which, at the present time offer a fertile field for the growth of bacteria, and it is my opinion that, if this condition is a cancer of the tonsil, he will hear from it again; it has not been cured.

Jno. B. Richardson, Jr.: I had an opportunity of seeing this man before Dr. Sherrill got hold of him. He was working on some paving in the back of my house, and my attention was attracted to him by the noticeably enlarged glands in his neck. At that time, I thought they were either syphilitic or malignant. A Wasserman test having been made, presumably by a competent bacteriologist, with a negative result, would apparently eliminate syphilis, but I am somewhat like Dr. Harris in that I would like to see this patient again six months or a year from now. I think it is still too early to give a favorable prognosis as to the ultimate result of the operation.

Jno. R. Wathen: I think Dr. Sherrill is to be congratulated upon the result obtained in this case. Very few surgeons would have the courage to undertake such an heroic operation. The removal of the tonsils under ordinary circumstances is attended by considerable hemorrhage, which, in the presence of a malignant condition would be much harder to control.

I do not think that the question of the permanency of relief afforded enters into the question. Once having settled the fact that the condition was malignant, one would have been justified in carrying out any procedure that would offer the slightest chance of relieving the distressing symptoms from which the patient suffered. This man has survived the operation and is certainly in far better shape than he would have been without operation.

The point that impressed me was the fact that Dr. Sherrill encountered so little hemorrhage, especially in view of the fact that cancerous growths in any part of the body bleed much more freely than does healthy tissue. It has been my observation, in operating in this region, that one

of the best methods of avoiding hemorrhage, is to clamp off temporarily the common carotid artery and, in doing work on the posterior part of the tongue, to ligate the external carotid artery.

M. Casper: I wish to add my congratulations upon the successful result of this operation. It seems to me that this would be a case in which radium is indicated, as a means of destroying cancer cells. I would like to ask whether or not there is any radium in Louisville. From what I have read in the literature, it appears that this is the class of cases in which it is indicated.

I presume that Dr. Sherrill did not employ cautery in this case. It has recently been demonstrated that, in inoperable cases of carcinoma of the uterus, the use of electro-cautery heat has been of great benefit in the way of arresting the growth and prolonging the patient's life.

F. T. Fort: Dr. Sherrill exercised a great deal of strategy in approaching the enemy in this case; first in doing a preliminary tracheotomy and, second, in cutting through the inferior maxilla, thus giving him a direct line of march to the cancerous tissue, and enabling him to control the hemorrhage as he came to it without the necessity of clamping the carotid artery. Therefore, I think he is to be congratulated upon his method of getting at the growth as well as the result obtained.

C. B. Spalding: I wish to congratulate Dr. Sherrill upon the result obtained in this case, and to emphasize Dr. Wathen's statement that, even if the patient is only temporarily relieved, the operation was justified. We know that in many so-called inoperable malignant conditions, life may be prolonged for many years by the use of various measures, cautery, etc., and if operation will accomplish a case very similar to this one, operated upon by Dr. Crile, and his method of attack was through the side of the neck, first putting in a tracheal tube, then making a wide incision and removing practically everything even one set of vocal cords. He left the wound open and used the X-rays through the open wound, and the result was simply marvelous. If some men can get results of this kind, I do not see why others cannot do the same thing. I think Dr. Sherrill is to be congratulated upon the result, and I am willing to take his opinion that it was an epithelioma.

W. D. Levi: I think the patient is to be congratulated upon the fact that Dr. Sherrill saw him when he did. At times there may be considerable difficulty in differentiating between a chancre of the tonsil and an epithelioma, and sometimes Hodgkin's disease is confused with the former condition. However, in marked cases of carcinoma of the tonsil, such as this one apparently was, macroscopical diagnosis is fairly easy and accurate. Had the patient not been operated upon, it is pretty certain that by this time he would have starved to death, whereas now he appears to be very comfortable and happy. I saw him in

the ward before he was operated upon and he was a most miserable looking creature, swallowing and breathing with great difficulty, whereas, now he no doubt both swallows and breathes well.

J. Garland Sherrill. (Closing): Dr. Harris seems to think there was some doubt in my mind as to whether or not this was a cancerous condition. There was no doubt in my mind whatever; it was a perfectly clear-cut case of carcinoma of the tonsil. A primary syphilitic lesion rarely involves the side of the tongue, and never produces an overgrowth of tissue of the cauliflower type; it is an ulcerative condition pure and simple, without induration. A late syphilitic lesion (such as this man would have) is also ulcerative in type in this region, and is not accompanied by syphilis at the age of twenty, as indicated by the localized unilateral enlargement of the glands. The question arises whether the patient really had history; there is more doubt in my mind about that than as to the character of this growth. It was about the size of an egg and presented every characteristic of a malignant growth. The man was very uncomfortable, poorly nourished, and as Dr. Levi has said, his condition was pitiable in the extreme. Even after the operation, the saliva continued to run down over his lip, but his condition has now material improved.

As far as the hemorrhage is concerned, it was easily controlled. Referring to Dr. Wathen's remarks, I have operated in this region, both with and without temporary ligation of the carotid artery, removing either the upper or lower jaw, and I must say that I have encountered no more hemorrhage without ligating the common carotid than with it. If you are just beginning in this class of work it is a good plan to follow, but it is important to bear in mind that a permanent ligation of the common carotid will very likely be followed by cerebral disturbances.

I fully agree with Dr. Wathen in regard to operating for a malignant condition in any locality, but especially in this one. I recall a patient with a carcinoma of the submaxillary gland, who had been seen by half a dozen surgeons and pronounced inoperable. She was gradually being choked to death by the pressure of the tumor, and her condition was miserable in the extreme. She begged me to operate upon her, although I gave her a very poor prognosis. The operation was done, and a few days later she remarked that the first twenty-four hours of relief justified the operation. She lived a year without a recurrence, but subsequently died as a result of a recurrence of the growth, the entire removal of which had been impossible.

In the case reported to-night, I did not give this man any prognosis at all. He is perfectly contented with his present condition, and I am too; it is better than I anticipated. He has no glandular enlargement anywhere about the body.

I must confess that I am not as familiar with this man's history as I would like to be. He told

me to-day that, at the time he had the paralytic trouble, he had been treated with anti-syphilitic measures. Syphilis of the mouth, in nearly every instance, manifests itself at the junction of the hard and soft palates. This man's condition does not indicate that he has syphilis in any form whatever.

I wish to thank the members very much for their discussion and favorable criticism.

AN INTERESTING CASE OF GLAUCOMA.

By C. T. WOLFE, Louisville.

If the presentation of this case shall be the means of saving a single individual from a mistaken diagnosis and an unhappy ending, as the patient in question met, I shall feel that I have not intruded upon the time of the society this evening. In the beginning I must beg the indulgence of the society to grant me the permission of giving a few of the major differential points between glaucoma and cataract; to illustrate:

Mr. J. H., came to the clinic April 30, 1914, for the purpose of having a cataract extraction. Inquiry, previous to examination, revealed the fact that he himself had not made the diagnosis, as some of our patients are prone to do, but that he had been under the care of a physician in an adjoining state for the past year, undergoing the "watchful waiting" policy for the supposed cataract to reach that state of maturity when its extraction would be attended with the best results. Examination revealed the fact that in neither lens was there evidence of changes indicative of cataract, but that instead he was the unfortunate possessor of an inflammatory glaucoma, with vision in one eye absolutely nil and the eye possessing a stony hardness, having reached the third stage of acute inflammatory glaucoma, known as glaucoma absolutum. Therefore, in order that I may possibly be the means of preventing a similar error in order that I may possibly be the mean of preventing a similar error, I feel that it would not be time illy spent to bring out some of the differential points between these two rather common diseases, if the society will permit.

If I were called upon to mention one structure that plays a role in most of the inflammatory conditions of the eye, the iris should be my choice. In glaucoma the pupil suffers from the increased intra-ocular pressure, which causes a partial paralysis of the sphincter, so that the pupil is larger than that on the normal side, its contour oval and its reactions lost. In addition we find a globe exquisitely tender in all parts. It is referred pain and may involve the areas of the first, the second and even the third divis-

ions of the fifth nerve; it may be so severe as to cause sickness or actual vomiting. Then by comparison we notice a decided change in the cornea which is "steamy" so to speak, as the result of fluid being driven into it by the excessive intra-ocular pressure. The anterior chamber is usually shallow; although the reverse may occur. Disturbance of vision, and this is the only like symptom of the two conditions, is rapidly lost in glaucoma by pressure on the optic nerve head, but before this occurs and blindness sets in, the steaminess of the cornea as before mentioned, gives rise to certain subjective symptoms, which any one can see for himself by breathing on a sheet of glass and quickly looking at a candle flame through the steamed medium.

These symptoms as a rule, are all elicited by inspection. Palpation on the other hand determines one of the most striking diagnostic features, that of tension. High tension is the characteristic of glaucoma, and in acute cases the hardness of the eye ball is unmistakable. The ophthalmoscope and the perimeter reveals changes in the background of the eye, which I shall not mention, taking it for granted that the afore mentioned symptoms when present are sufficient for any one to make a diagnosis of glaucoma. With many of these symptoms our patient was seen for the first time.

Let us now enumerate the symptoms that are manifest by a patient with uncomplicated senile cataract. The foremost of which is a gradually diminished acuteness of vision. There are no inflammatory symptoms, and the patient complains of seeing fixed black or gray spots on objects in contrast with moving spots met with in other affections; or things are seen as though they were wreathed in fog.

Reading is more difficult and glasses do not improve matters. He has a difficulty in finding his way about in daylight, but—and this is a point to be borne in mind, he finds this easier when twilight comes on.

The reason of this is that cataract usually commences in the center of the lens, and light causes the pupil to contract, while twilight dilates it, allowing the rays of light to enter the eye around the opaque centre.

Further we are aided in making the diagnosis by oblique illumination which shows a "grayish" or "whitish" opacity on a black ground, and with the ophthalmoscope at a distance a black opacity upon a red field. In the advanced stage the entire pupil will appear gray and there will be an absence of fundus reflex.

That I have endeavored to confine my remarks upon the differentiation of these two conditions to the most cardinal symptoms, I trust will be considered, as this is not intended for an essay. However, I trust that sufficient stimulus will have been given to bring

out a discussion that shall make clear in the mind of every one present the differentiating features between glaucoma and cataract, that all will be more enabled to make a positive diagnosis and thereby attempt to relieve the distressing symptoms that go hand in hand with glaucoma.

The case that I wish to present is a male, age 66, who has been suffering with acute inflammatory glaucoma for more than a year. The vision in his left eye was nil, and that in his right 20-25 when first seen; with the history of having passed through all the stages of acute inflammatory glaucoma characterized by the prodromal symptoms of frequent acute attacks in which vision would be blurred, eyes pain, sensation of seeing rainbow around lights, dull frontal headache, etc. His right eye has progressed no farther than this stage, but his left having been untreated and being the first involved, had progressed to the third stage, that of glaucoma absolute. The eye was very hard, possessing a tension of 43, pupil dilated and oval, reaction lost and the cornea hazy. The optic nerve was pushed back, due to the high intra-ocular pressure and he had pain which radiated above the orbit and back to the temple. In the right eye the tension was slightly above normal, pupil dilated, field contracted and vision below normal.

Eserin salicylate was used for one week, together with advice relative to improving his general condition with no apparent benefit, and then the question of operation came up. After explaining the necessity of keeping the tension of the eyes down, and that an operation was inevitable, he readily consented. An iridectomy was done on the left eye June 20, 1914, and on the right June 30, 1914. On the blind eye merely to relieve pain and on the right eye to check further progress of the disease. That the operation came up to expectations is manifest by his disappearance of pain, cessation of inflammatory attacks characteristic of the prodromal stage in his right eye and his vision in the same eye increasing practically to normal.

Wounds from French Firearms.—Delorme reviews his experience in treating about 700 Germans wounded by the French arms, and comments on the remarkably large proportion of fractures of the legs, thighs and arms and the rarity of abdominal and chest wounds. He was also impressed by the lack of complications, except tetanus, which was comparatively frequent. The projectile had passed entirely through the foot in many instances, but there was no tetanus or gangrene or erysipelas in any of these cases.

OSTEO-ENCHONDROMA OF THE SCAPULA.

By J. HUNTER PEAK, Louisville.

About ten years ago, I remember to have reported a case almost, if not exactly, similar to the one I am reporting to-night. That young lady has never had a recurrence or trouble of any kind, referable to her former tumor of the scapula.

I find the literature on this subject quite limited, as I found it at the time of the report of the other case. The literature being scarce on this subject, and having never seen but two cases myself, I thought it might be of interest to this society to exhibit to you this tumor with a report of the case.

Miss E. M., age 7, who never had any serious illness nor injury. The mother tells me about three years ago she noticed that the right shoulder blade seemed to be growing larger and it continued to grow larger until it reached the size, you see the tumor before you to-night. This little girl was operated on at the Children's Hospital about six weeks ago. She remained in the hospital about one week and went home well.

Now I would like to tell you about the location of this growth. The one I reported before grew from the dorsum of the scapula nearest the internal border, about midway between the lower angle and the spine of the scapula and had grown large enough to take up the intervening space. This tumor that I exhibit to you to-night, grew on the sub-scapular surface at almost the same locality as the former one.

You can get some idea of the deformity when I tell you that this growth was so large that the child's shoulder joint seemed to be pushed around on the chest, and the arm seemed to be carried from the front of the chest and you can realize the mal-position of the muscles if you will recall their attachments to the scapula. You remember the deltoid has its posterior and upper attachments all the way along from the vertebral spinous process from about the fourth cervical to the twelfth dorsal and has its attachment to the inner end of the scapular spine and all the way along its upper border. The supra spinalis and infra spinalis are located as the names imply, above and below the scapular spine. The major and minor rhomboids, which arise from the vertebral spinous processes have their attachment to the inner border of the scapula.

Now with the tumor on the scapula pushing it outward in the manner here described, you can have some idea of the displaced and modified musculature.

The operation in each case that I have devised consists in an incision parallel with the

inner border of the scapula extending from the top of the scapula to the lower angle. This is carried down to the inner border of the scapula from one end to the other and the muscles are cut away from the bone viz.: the infra spinatus, the supra spinatus, the trapezius and the rhomboids, then the bone is lifted up and the sub-scapularis dissected away from the scapula, now, with an assistant holding the arm closely against the thorax, pushing downward and backward, the scapula can easily be brought out of the wound. The rest of the operation is easy if you are supplied with the proper instruments; a good Rongier forceps, bone pliers, a key-hole saw, De Vilbiss forceps and a chisel.

When I did the former operation I used the saw and a bone-cutting forceps and a chisel. I did not then own a De Vilbiss forceps.

The last operation, the bone-cutting was all done with the De Vilbiss forceps except the rough angles and edges which were trimmed off with an ordinary bone-cutting instrument. It might be noted in this case as in the former case, that it was not necessary to remove the lower angle of the scapula, hence, the attachment of the teres major and minor muscles were not interfered with at all. It might be noted also that the scapula was so weakened in each case by the removal of the bone tumor that it would have been very easy for the patient to sustain a fracture of the remaining scapula if they were not properly warned concerning the use of their hand and arm, for instance, in each case the patient was instructed never to sustain the weight of the body from the hands, raised over their head.

After the tumor was removed the infra spinatus and supra spinatus were sutured to the rhomboid muscle and the trapezius to the deltoid attachment. The wound was closed without drainage. The patient has a good shoulder and a perfect use of her arm and shoulder muscles.

This tumor has been examined microscopically showing it to be an osteo-enchondroma.

Verrucose Dermatitis.—Surgical treatment in Hazen's opinion is undoubtedly the quickest way of curing the condition. Salves and ointments are absolutely useless, except to prevent the spread of the malady and to allay itching. So far as Hazen's experience goes neither radium nor the Roentgen ray has helped, although he admits that either of these two remedies might prove beneficial. The best treatment is probably thorough ennetage, under a general anesthetic, and cauterization with either the actual cantery or the acid nitrate of mercury. Preliminary ennetage is to be preferred, because one can tell by the "feel" of the curet about how much tissue it is necessary to remove.

DERELICT KIDNEY; WITH REPORT
OF CASE.

By GEORGE H. DAY, Louisville.

Nonfunctionating or derelict kidneys are often observed in kidney tuberculosis, also in kidney-stone where the calculus is of sufficient size to occlude completely the lumen of the ureter, it is however, most often seen in tuberculosis, and, while it is not at all uncommon, still it is of sufficient interest to warrant report of a case. The case in question is the result of tuberculosis. It is said that tuberculosis of the urinary organs may occur without an active focus being present in the body. We know that it may be secondary to an active tuberculosis of the urinary tract or metastatic to a lesion in the lung. We are also aware that tuberculosis of the kidney may be primary or secondary, but we also know that in a stricter sense primary tuberculosis does not exist in the kidney in that there is always a focus in some other part of the body. We usually classify them, 1st, haematogenous; 2nd, lymphatic; 3rd, ascending. It is perhaps now conceded that tuberculosis of the kidney takes place through the mediastinal lymphatic glands. The experiments of Smith and Sweet, University of Pennsylvania has proven beyond all doubt that most supposedly ascending and haematogenous infections of the kidney are carried by the lymph stream. Brongersma holds that lymphatic is more probable than haematogenous or ascending infections. He also believes that primary tuberculous focus is always situated in the thorax. He found 62 out of 71 cases of renal tuberculosis that had symptoms of tuberculosis of the lung on the same side as the affected kidney, though infection either descending or primary by the blood stream, has many advocates. Alberran has shown that if tuberculous bacilli were injected hyperdermically and the ureter of one kidney is ligated, tuberculosis develops in this kidney. This has also been confirmed by other observers. As to ascending infection it has been found that it was impossible to have ever observed a primary bladder tuberculosis. It has also been noted that after the injection into the bladder of a culture of tubercule bacilli to have ever found a resulting renal infection. As a consequence renal tuberculosis is a condition usually secondary to a lung focus, most commonly noticed between the ages of twenty and fifty. It is usually unilateral and for some time after the onset symptomless. Kronlein found that 92 per cent, and Laguen 85 per cent, of all cases were unilateral. The cardinal symptom of renal tuberculosis is *frequent and painful urination*, for throughout the entire course of nearly every renal tu-

berculosis most of the symptoms are usually referable to the bladder. It is for the relief of cystitis that the tuberculous patient usually first consults his physician. The tenesmus is always nocturnal as well as during the day, and it is the nocturnal frequency that gives us our first clue. Usually the lesions are well advanced when these cases come into our hands. The bladder tenesmus is now so severe that the patient is in abject misery. Possibly nowhere in the realm of medicine is there anything to compare with the torture of an advanced tuberculous bladder. Occasionally haematuria is noticed, but polyuria, pyuria, and albuminuria are always constant. Usually there is little pain referable to the kidney, although at times it is quite pronounced, while at others pain is found on the sound side. In many cases we have metastasis involving the prostate, epididymis and seminal vesicals. For the diagnosis of this condition the physical examination of the abdomen and chest and bacteriological examination of the urine and guinea-pig inoculation, ophthlmo-tuberculin reaction, radiography, and cystoscopy are followed in the order named. All of these methods are well within the limits of the general practitioner possibly with the exception of radiography and cystoscopy. It is with the cystoscope, however, that we obtain our best and most reliable information. There is no procedure in surgery that will obtain the results as will the cystoscope in the hands of an experienced urologist, as it is possible in every case to locate mathematically the extent of the pathology in the bladder, which kidney is involved, the scope of the infection, and the resulting prognosis. All this can be expected by the mere examination of the bladder through the cystoscope. To the trained cystoscopist the orifice of the ureter of the infected kidney indicates clearly the nature of the lesions by changes in the color and contour of the lips of the orifice, by the frequency, size, and regularity of the urinary efflux, and by the character of the urine that is expelled. By cystoscopic examination exact conclusions may be drawn which cannot be arrived at by any other means, and it must always be insisted upon that in all suspected cases this method should be rigidly carried out. Fenwick has fees are so characteristic that they always said that the appearance of the uretral orifice act as an absolute guide not only in the nature of the disease, but also as to the existence of the tuberculosis of the kidney on the side on which they are found. To the cystoscopist the four commandments outlined by Newman are:

1st. When the orifice of the ureter is strictly normal, no serious disease exists in the corresponding kidney.

2nd. When the kidney is normal the orifice of the ureter is also normal.

3rd. When there is evidence of tuberculosis of the orifice of the ureter, there is always associated with it tuberculosis of the corresponding kidney.

4th. In tuberculosis of the bladder the ureter does not become involved if the corresponding kidney is free from disease.

As an illustration. Mr. G. C., unmarried, age 36, referred by Drs. Solomon and Ed Palmer. Was treated for some time by Dr. Palmer, to whom he gave the following history. First seen by Dr. Palmer in August, 1910, when he confessed to a gonorrhoea 12 years previous, which lasted for two months. Five years ago he noticed considerable difficulty on urination, with swelling and abscess in the perineum, which opened spontaneously, the resulting fistula discharging continually since then. Dr. Palmer found the urine very cloudy, with an abundance of staphylococci, streptococci and colon bacilli, no tubercle bacilli. He also had a dense meatotomy with after treatment of dilatation and irrigation, no improvement noted. He was instructed by Dr. Palmer in the use of irrigation, which was continued for some time. He passed from his observation for several years, at which time he consulted several other physicians, with symptoms continued practically as above, with negative results. In January, 1913, he again consulted Dr. Palmer, but at this time he presented a persistent haematuria with great pain on urination. In August, 1913, epididymitis on the left side developed with abscess, which has continued to discharge at various intervals. This pus was also negative for tubercle. The haematuria continued for some time but during the last several months was more or less intermittent. In September Dr. Solomon was called. After careful physical examination he made dietary changes, substituted tonics, instituted Van Cotts' vaccine, and as a result the symptoms became less pronounced, to later relapse worse than ever.

At my initial examination on November 3rd, I found a greatly emaciated man, of medium height, with an evening temperature of perhaps one degree. The organs of the chest and abdomen with exception of the left kidney were negative by physical examination. A large tumor was noted in the left kidney region, fairly sensitive on pressure. The right was negative. A mass of cicatricial tissue was observed in the perineum and scrotum. A small fistula also noticed in the perineum, but not discharging. The anterior urethra was negative, but some contraction noted at the vesical neck. The cystoscopic examination developed a highly congested area about the internal meatus, the trigone involv-

ed generally with miliary tubercle, slightly more so on the left side. The left orifice was completely buried in a nodule coalescing with other smaller ones in the vicinity of the orifice, behind the ureteric band multiple ulcers of the same variety in appearance. The right by comparison was not nearly so badly involved, only mildly so. The catheter was passed into the right ureter to the kidney pelvis. There was considerable blood mixed with the first urine collected, which in a short time became clear. This urine contained a considerable amount of albumen, sugar, a quantity of hyaline and granular casts, but was negative for the tubercle bacilli by the microscope and by guinea-pig inoculation. On the left side the catheter introduced into the ureter only about five inches owing to an obstruction. There was no urinary flow. The injection of 2 c.c. sterile water resulted in the passage of a very thick and purulent specimen which was positive for tubercle bacilli both by microscope and guinea-pig inoculation. Specimens from both sides in addition contained quantities of colon and staphylococci. On November 10th, second cystoscopy with functional test of phenolsulphonephthalein. At this time introduction of the catheter on the right side considerable interference of its passage was noted at the ilio-sacral synchondrosis. Successively smaller sizes of catheters were tried, with the same result. Catheters were left in situ and the thalein injected. Its appearance noted in 18 minutes, no urine from the left side. The reading of the percentage of thalein excreted was made by the colorimeter and found to be 65 per cent for three hours, this urine containing albumen, sugar, hyaline and granular casts, negative microscopically for tubercle bacilli, negative also by guinea-pig inoculation. Cystoscopy a few days later, the picture of the bladder the same as before, but with addition that from the left orifice was seen a thick tenacious well-formed mass being steadily emitted and coiled up in the bladder trigone. This continued throughout the entire examination. The nodule at the left orifice was considerably smaller, in fact, had diminished in size to such an extent as to take the appearance of it having recently undergone sloughing. The right ureter same obstruction was noted. Catheter was again left in situ four and one-half hours. At this time specific gravity 1018, estimation of urea for twenty-four hours 26 grms., nitrogen 10 grms., albumen and sugar present, hyaline and granular casts. At this time tubercle bacilli were found.

This case shows forcibly the relative value of the cystoscope in this condition. At my first examination we were emphatically impressed with the fact that we were dealing with a unilateral tuberculosis from the fact

that both orifices were involved with the tuberculous nodules, and even though the laboratory findings and guinea-pig inoculations of the right urine were negative, nevertheless we make it a rule in these cases where either or both orifices are involved to not accept a negative urinary examination. It is our rule, and we have yet to be mistaken in it, that at times perhaps as many as six urethral catheterizations are necessary before the tubercle may be demonstrated. These, however, are very exceptional cases. I wish to emphasize this fact as strongly as possible that we have yet to see a urethral orifice involved with these characteristic tubercles that the bacilli could not be demonstrated. The case in question was no exception to the rule. The right kidney was involved while the left was a dervect and had not functionated for possibly many years. This was found at the subsequent operation. To the four commandments of Newman we might suggest another.

At any time that any change is noted in the contour of the urethral orifice that cannot be accounted for by laboratory findings, it is of the greatest significance and should be temporarily accepted as tubercular until proven otherwise.

ABDOMINAL ADHESIONS PREVENTED WITH SODIUM CITRATE IN HY- PERTONIC SALT SOLUTION; REPORT OF CASE.

By JNO. R. WATHEN, Louisville.

The following case which I report is interesting from the fact that several operations were performed upon the same individual for the relief of recurring abdominal adhesions and the case has been finally cured by the use of the above solution.

Abdominal adhesions following operations have been a frequent source of much annoyance both to the patients and the surgeons.

Pope, of San Francisco, *Annals of Surgery*, January, 1914, has presented a paper upon the experimental study of the prevention of peritoneal adhesions by the use of citrate solutions. He has worked upon the hypothesis that fibrous exudates in the peritoneal cavity depend upon the same principles that apply to the formation of fibrin in blood clots, i. e., before a fibrous exudate can form in the peritoneal cavity with its resultant plastic agglutination, there must be the liberation of that hypothetical ferment, thrombokinase, its activation of prothrombin in the presence of calcium and the production of thrombin. Thrombin as an active enzyme converts soluble fibrinogen into fibrin.

Pope says: "If we are to attempt to influence the production of fibrin deposits or peri-

toneal adhesions in the abdominal cavity, we must by some method inhibit the process of ferment activity. We must either inactivate thrombokinase or bind the calcium in the serous exudate."

It has been a well established fact for many years that the citrates prevent clotting and predispose to hemorrhage, while the calcium salts act the reverse. The following is a report of this case:

Miss B., age 20 years, presented herself to me for operation on December 31, 1911, complaining of abdominal adhesions to an old scar over McBurney's point, having been operated upon by another surgeon one year previous for chronic appendicitis. At that time her wound had healed without suppuration and there was no drainage employed.

Operation disclosed adhesions of omentum to site of removed appendix and also to the scar of abdominal wall above. Part of this adherent omentum was removed and the peritoneum where the omentum was adherent also removed, leaving only the fresh undenuded surface to be united.

Patient returned again for operation on May 24, 1914, about five months after her second operation, complaining of the same type of abdominal adhesions. When she would stand erect or straighten up there would be traction at the site of the abdominal scar. Operation this time revealed that only the omentum was adherent but as a very large part of the omentum was involved, I removed the major portion of the great omentum.

On June 10, 1912, two months later she returned again to me complaining of the most severe pain and great trouble with her bowel movements.

At this operation I found a loop of the small intestine and part of its mesentery adherent to the scar. Adhesions were separated and the denuded surfaces covered by infolding, leaving no raw surfaces.

On July 14, 1914, one year later, patient again returned for operation, having been troubled with the same adhesions, which reformed soon after the last operation and gave rise to the same symptoms.

Operation for the fifth time showed a large mass of adhesions between the ascending colon, hepatic flexure and pyloric end of stomach to the right side of abdominal wall. After separation of the viscera from the peritoneum of the abdominal wall there was left a space of about six inches by four inches of denuded peritoneum.

The raw surfaces on the viscera were turned in and the raw surface on the abdominal peritoneum was repeatedly bathed with the citrate solution. This clear solution when it touches a red raw and bleeding surface, im-

mediately bleaches it a white, glazed and smooth surface. It will immediately bleach out a red, bloody gauze sponge. After using about six ounces of the citrate solution. I closed the abdominal wound in the same way as in previous operations. From all five operations the patient now has three abdominal scars; one at the original site of the first operation, done by another surgeon, another through the right rectus muscle to the inner side of the first scar, and the last on the left side through the left rectus muscle.

The patient, now October 19, 1914, has not had any recurrence of the previous trouble and says for the first time she believes she is entirely cured.

While only three months have elapsed since her last operation, the one in which for the first time, I used the citrate solution. I am firmly convinced that we have a permanent cure from the fact that her symptoms returned always very early after the previous operations.

In conclusion I wish to state that the use of lubricants, protectives and other agents in the prevention of abdominal adhesions has never yielded the satisfactory results that I have obtained from this solution.

FOREIGN BODY IN SUBMAXILLARY GLAND; REPORT OF CASE.

By J. A. O. BRENNAN, Louisville.

Foreign bodies found in the various salivary glands have been often reported and it is a case of this kind I wish to report as they are usually interesting cases.

Mr. C., consulted me on June 18, 1914, suffering with great pain and a marked swelling in the left submaxillary gland. He had been complaining a few days before coming to me but had seen another physician who told him it was only a cold and it was only after he obtained no relief he consulted me. On examination he showed a great swelling of left submaxillary gland and on inspecting his mouth you could notice considerable oedema around Wharton's duct as well as the whole floor of the mouth. On massaging the gland forward you were able to press out some few drops of pus and on the introduction of a probe I was unable to make out any obstruction or constriction but quite a quantity of pus was removed, which gave the patient great relief.

I advised him to continue the massage of the gland forward as I thought he had a stone or some foreign body in the gland and on the following day he pressed out this stone and accordingly all of his symptoms subsided.

DISCUSSION.

S. G. Dabney: I have seen several cases of

stone in the salivary glands, and my experience has been that they generally make their way into the duct and occasionally, as in this case, through it. More frequently, however, they have to be removed through the floor of the mouth. It has been my observation that they occur more frequently in women, although my experience has been limited to perhaps eight or ten cases, five or six of which were in women. One of them had a story attached to it. One night, at a local medical society, I exhibited a beautiful conical shaped stone which I had removed that day from Wharton's duct. Dr. Marvin was present and was called away while I was relating the case. When he came back he told me he had been called to see the patient from whom I had removed the calculus, and that she appeared to be suffering from nervous shock, with a temperature of 106 1-2. I relate this as one of the coincidences of medicine—that while I was reporting a case, Dr. Marvin should have been called away to see the patient.

I had a case last summer in a young lady. I examined her mouth a number of times, but could see nothing. Upon introducing a probe into the duct it was impossible to detect a stone, although it was evident that there was one in the gland, and it appeared that a very deep incision through the mouth would be necessary to remove it. One day she telephoned me that the stone had worked its way up near the mouth, and before she reached my office it had worked out.

It has always seemed to me that, theoretically at least, cutting the duct would be apt to result in stricture, but practically this does not seem to occur.

I have never had one of these stones analyzed. They are believed to be composed of depositions from the saliva, and rarely, if ever, do we find a foreign body forming a nucleus.

Bernard J. O'Connor: I had a personal experience with a calculus of this kind. About six months following my first attack of typhoid fever, I noticed that just about meal-time, my parotid would swell up and become so tight as to preclude the possibility of eating. In course of an hour it would subside to its normal size. This continued for almost a week, and upon having the duct examined, a small stone was detected under the right side of the tongue. The duct was incised longitudinally and stone removed. I was particularly impressed by the fact that there was no increase in the secretion of saliva. Obstruction of the duct is, as a rule, the most prominent symptom; in fact, it is usually the only symptom.

J. H. Brennan, (Closing): I have enjoyed the discussion very much, and wish to thank the gentlemen for it.

The most prominent symptom in my case was tension and marked oedema in the floor of the mouth.

HIGH FREQUENCY TREATMENT OF BLADDER TUMORS.

By HERBERT BRONNER, Louisville.

For years one of the most uncertain and unsatisfactory chapters in genito-urinary surgery was the treatment of papillomata of the bladder. Even in the hands of the most expert surgeons, the percentage of recurrence was high and this in spite of the most careful technique. That there is a distinct tendency toward malignancy where papillomata recur is a well known fact.

Young, speaking of the suprapubic operation, in benign tumors says, "The results obtained in these nine benign cases are extremely bad, not nearly so good as is now obtained by fulguration, and they show in a striking way the inadequacy of the suprapubic incision even when great care is taken to avoid implantations and to thoroughly remove the tumor after clamping its pedicle."

Bremerman reported eleven cases operated by the open method. In each case the microscopic findings were given as benign papillomata. Of these cases eight are dead from malignant recurrence; one still alive but with recurrence, one apparently well after two years and one only a few months old and still free from recurrence.

When Dr. Edwin Beer in 1910 announced his results with the high frequency treatment of bladder tumors it is not to be wondered at urologists throughout the world quickly investigated the new method. Beers's work was soon corroborated by that of Keys, Squier, Pilcher, Thomas and many others until at the present time this method of treatment has attained a certain place in genito-urinary surgery.

Young, speaking of his results, says, "The cure of these apparently hopeless cases by means of the high frequency spark is indeed a brilliant result and shows a great superiority of the method over the suprapubic excision in benign cases." Again, "the demonstration of the marvelous efficacy of high-frequency electrical applications is one of the most brilliant and valuable additions to surgery in recent years."

Pilcher in discussing the various methods of handling papillomata says, "of these, the spark method is by far the safest, surest, easiest, and the one followed by the lowest number of recurrences. This method of treatment is now an accepted procedure."

The points in favor of this method in the treatment of benign papillomata may be stated as follows: The tendency to recurrence is less, (Bremerman had thirty-one cases with only one slight recurrence) the mortality is nihil; the patient can attend to his ordinary

duties, as the time consumed in the treatment is no longer than for ordinary cystoscopy and the treatment can be given in the office.

The Oudin and mono-polar spark has been found of value as a palliative measure in the handling of inoperable carcinoma of the bladder and in the near future there is hope that by the use of a very powerful bi-polar or D'Arsonval spark that curative results may be obtained in cases of proven malignancy. Already in the latter class of cases Pilcher has taken the stand, that after opening the bladder, the knife should be laid aside, and the presenting mass removed by the actual cautery and then the base destroyed by the D'Arsonval spark.

Anyone who has a fair knowledge of cystoscopic technique should be able to carry out this treatment. In our cases we have used a Wappler machine, employing a specially insulated electrode through the catheterizing telescope of a Brown-Buerger cystoscope. The length of treatment, the number of points of application and the intervals between treatments has varied with each case. We endeavored, wherever feasible, to bring the electrode as near as possible in contact with the base of the tumor, but, in some cases, as for example in the two to be described this was impossible and the electrode had to be inserted into the villous masses. The phenomena observed during treatment are extremely interesting. At the point of immediate contact the tissue becomes carbonized, turning greyish-black. Around this spot is a distinctly blanched area. Also arising from the point of contact is seen a steady stream of bubbles, due to evolution of gas.

We have used this method in the treatment of a number of smaller growths, including some around the verumontanum and sphincter. In these cases a few shot sittings were usually sufficient to affect a cure.

In this paper we desire to give a report on the use of the high frequency method in the treatment of two exceedingly large growths.

G. A. D., age 44, occupation engineer. Ten years ago first noticed nocturnal frequency; five years ago diurnal frequency; sixteen months ago first noticed bleeding. Now passes urine every two hours in the day time and three times at night. Slight burning at end of urination when he passes a few drops of blood; when bleeding is profuse there is no pain. Chief complaint is bleeding. This bleeding is apparently not influenced either by rest or motion, patient often having the most profuse haematuria on first rising in the morning.

First cystoscopy, October 10th, 1913. A very large papillomatous mass was seen filling the left side of the bladder. Oozing was

distinctly visible. By the time the left side was examined there was considerable bleeding so that the right side could not be seen distinctly.

Second cystoscopy October 16th, 1913. A very good view obtained. Right side examined first—the ureteral orifice distinctly visible and seemed hypertrophied; marked edema bullosum around the right orifice and right side of sphincter. Very large mass on left side of bladder. On this occasion, what first appeared to be one growth was seen to be made up of several growths so close together as to appear as one mass. In the fundus, beginning posteriorly and coming forward to the sphincter a large mass could be seen on the side wall and also covering the left side of the trigone and the left ureteral orifice. Bases of the tumors could not be seen, so that it was impossible to determine whether they were sessile or pedunculated.

The patient refused a suprapubic operation but readily consented to the high-frequency treatment. A delay in treatment was necessary because of an attack of acute cystitis which developed. This cystitis, as is usually the case in that form which accompanies bladder tumor, was very resistant to treatment and it was not until November 26th that his bladder became tolerant enough for work. On that date we introduced the cystoscope and found the bladder in remarkably good shape considering the severe cystitis through which the patient had recently passed. On this day we gave the first high-frequency treatment, as the patient was somewhat frightened. At each point of contact a distinct evolution of gas was visible. The spark gap was one-eighth of an inch employing least possible voltage.

The patient tolerated this treatment very well, the reactionary hemorrhage being very slight. There was no recurrence of the cystitis—the patient's tolerance increasing decidedly after the first treatment.

Second treatment December 2nd, 1913. Five applications to the mass, the patient standing this treatment much better than the first. Again, the amount of bleeding following the treatment was slight; there was no recurrence of the cystitis, but to the contrary the urine was in better shape than it had been for months. Patient was holding urine from three to four hours and the tolerance was as much as sixteen to eighteen ounces.

Third sitting December 8th. Bladder very tolerant and a splendid view of the truly beautiful papillomatous mass was obtained. On this occasion eight different points of the tumor were treated, time of application 164 seconds. The evolution of gas was very distinct as was the "blanching" of the tissues. Hemorrhage following this treatment very

slight and bladder tolerance has again improved following this treatment. As would be expected following the longer treatment, a larger number of tissue shreds have appeared in the urine.

Fourth sitting December 17th. Ten points of application, time 238 seconds. Since the treatment patient has been passing very large tissue sloughs.

Fifth sitting, December 26th. Five points of application, time 156 seconds.

Sixth sitting, January 5th, 1914. Seven points of application, three minutes and forty seconds.

Seventh sitting January 20th, 1914. Eight points of application, time 148 seconds. The interval between this and the previous treatment was longer than usual because of an attack of influenza. As far as bladder symptoms are concerned patient is doing well.

From this time on treatments were given at intervals of seven to ten days until April 13th, 1914. As the patient became more accustomed to the procedure we lengthened the time each treatment and also increased the spark gap.

Eighteenth sitting, April 13th, 1914. Fourteen minutes, thirty-seven seconds. The action from the machine is now very decided. Very large masses are being thrown off which the patient feels passing through the urethra. By this time the larger part of the tumor had been destroyed and a perceptible difference in the roominess of the bladder was visible. The patient felt absolutely normal. There was no haematuria, and, with the exception of the slight bleeding which follows treatment there had been no bleeding after the first short application. The frequency of urination had also entirely disappeared, the patient holding urine all night and voiding but three times during waking hours. We desired to keep the patient under observation longer but he declined as he could not see the necessity of further manipulation in view of his absolute freedom from symptoms. We hope to have an opportunity of cystoscoping him in the near future, as we recognize the necessity of occasional observation in the case of bladder papillomata.

Since the treatment was instituted the patient has not lost a day's work, in spite of the fact that his occupation was rather strenuous—a railroad engineer.

E. C. T., age 58. Farmer by occupation. No venereal history. Symptoms started eight years ago with frequency both day and night. This gradually became worse. Bleeding started two years ago. Bleeding first, would occur at intervals. Since March 1914 bleeding continuous—the entire urine being bloody. When he first came under our obser-

vation urinated every hour both day and night. Difficulty in holding urine when desire to void came on. First cystoscopy May 11th, 1911. Cystoscope introduced with ease but a field obtained with difficulty owing to excessive hemorrhage. Finally numerous masses were seen occupying the larger part of the bladder.

Second cystoscopy June 15th, 1914. On this occasion we first introduced some adrenalin solution. By employing continuous irrigation a much better view was obtained. The bladder was seen to be filled with papillomatous masses, the villi waving like weeds in the fluid medium.

The patient refused a radical operation and we do not blame him, as nothing short of an almost complete cystectomy would have availed. He accepted the high frequency treatment reluctantly and presented himself for the first treatment July 20th, 1914. Treatment given with difficulty owing to the hemorrhage. There was slight bleeding for two days after this treatment and there has been none since.

There have been six treatments since, the last being given on October 5th, 1914. At the present time there is a remarkable change in his condition. He has gained five pounds in weight. He voids but two times at night and six times in the day time, the urine being clear.

We will persist in the treatment until the growth has been destroyed—the large number of the tumors being no bar to this form of treatment, Young having gotten one of his best results in just such a case.

The interesting points in these two cases to us were: First, the enormous size of the masses in the bladder. Second, the fact that frequency and not haematuria was the first symptom. Third, the fact that hemorrhage, with the exception of the slight reactionary bleeding, ceased in both cases after the first short treatment. We do not flatter ourselves that we succeeded in touching the bleeding points in both cases at the first treatment and therefore must believe that in the high frequency treatment we get something more than the action at the actual point of contact of the electrode. Whether there is an electrolytic action which has a vaso-motor constrictor action on the tissues or not, we are not prepared at the present time to state, but, our observation in these two cases has certainly been confirmed by others, that is, cessation of hemorrhage of long duration after one treatment.

INTESTINAL OBSTRUCTION.

By JOHN W. PRICE, JR., Louisville.

Intestinal obstruction may be classified as acute or chronic, complete or incomplete. The chronic cases may become acute at any time. This condition may result (1) from paralysis of the muscular coat of the bowel due to toxins or spinal cord lesions; (2) spasticity due to lead poisoning; (3) occlusion by feces, gall-stones, foreign bodies, congenital malformations, tumors or cicatrices in the wall of the gut or tumors in neighboring organs; (4) strangulation by bands of peritoneum or adhesions, intussusception volvulus, internal and external hernia.

The symptoms are severe, intermittent abdominal pain, slight nausea, projectile vomiting of gastric and abdominal contents, obstipation, audible peristalsis, distention of the abdomen. No flatus will be passed by the rectum if the obstruction is complete. If the obstruction is complete the bowel above the obstruction becomes so altered that bacteria readily pass through and the case becomes complicated by a developing peritonitis. If the obstruction is not relieved the bowel becomes gangrenous.

TREATMENT.

If you suspect an acute obstruction avoid the use of all purgatives. You may use enemas until your diagnosis is established. Don't use eserine. Ashurst states that he has seen intestinal perforation result from the violent peristalsis induced by eserine in these cases. As soon as the diagnosis is made an operation for the relief of the obstruction is imperative and should be done without delay. Where the obstruction is chronic or incomplete you may use laxatives. Russian oil, liquid albolene and enemas of milk and molasses, milk of asafetida, turpentine and glycerine, etc., until your patient consents to an operation.

I desire to report the following case as being typical of that class of chronic incomplete obstructions, due to peritoneal bands. The predisposing causes for the formation of peritoneal bands are one or more attacks of peritonitis and abdominal operations. The patient whose case is about to be reported had suffered from both of these predisposing conditions, four previous laparotomies having been performed.

The preventative treatment of this type of intestinal obstruction should be in the mind of every surgeon while he has the abdominal cavity open. Advances in abdominal surgery during the past few years have been made by improving the technique of operations. Not only has mortality been lowered but the morbidity has been lessened. The old fashion-

ed spectacular operation where an adherent tumor or tube is ripped out of the pelvis and the abdomen closed after two or three ligatures have been tied should be a thing of the past. In such cases, raw surfaces are sure to become adherent; bands and adhesions are sure to follow. Such surgery is dangerous. Who can tell when the intestinal obstruction will supervene? Therefore, the surgeon must practice rigid asepsis, avoid roughness in placing retractors, in handling the tissues, in sponging, in placing packs to wall off the operative field. He must avoid the use of chemicals in the cavity. Viscera pulled out-air by warm pads saturated in normal saline side of the cavity must be protected from the solution. All raw surfaces and pedicles must be peritonealized by using the finest needles and suturing material, which will do the work. A coarse needle must not be used just because it is threaded. Septic material found in the cavity or intestinal contents must not be carelessly spread about just because we are going to drain and the peritoneum will take care of it. Finally, before closing the cavity all blood clots must be removed, oozing checked, and the omentum placed on guard.

A young woman, M. R., married, age 20, presented herself to us with the following history:

The father died of a cancer or sarcoma, otherwise the family history is negative.

Personal history: Occupation, housework. Menses began at age 17. They were regular, moderate flow, duration four days, interval between periods four weeks prior to her operations. The periods following the operations have been slightly irregular, the interval being three or four weeks, duration two days and the flow scanty.

Previous Medical History: She had measles, mumps, diphtheria, and typhoid fever at age ten. Pneumonia at age 16. Patient had the following operations performed upon her, each by a different surgeon. (1) Appendectomy May, 1913; (2) left oophorectomy, June, 1913; (3) ilio-sigmoidostomy, August, 1913; (4) left salpingectomy, April, 1914. The bowels have not moved regularly since she was thirteen years old. It was on account of obstinate constipation that an ilio-sigmoidostomy was performed by another surgeon. After this operation the bowels moved more readily until December, 1913.

Present Illness: Since December, 1913, she has had increasing difficulty in procuring a motion. There has been considerable pain in the right upper quadrant of the abdomen. She has been frequently nauseated and has constant vomiting thirty minutes after meals. The variety of food neither lessens nor in-

creases the vomiting. The abdomen is constantly distended and is frequently more distended after a bowel movement. She is weak, has constant headache, is easily tired and is unable to earn her living. The interval between bowel movements is one or two weeks. The patient was admitted to the City Hospital on September 28th, 1914. The first movement of the bowels was on the 2nd of October, although she was given the following medicine:

September 28, 6:00 P. M.—Calomel, grains 5.

September 29, 6:00 P. M.—Magnesium sulphate, oz. 2; 2:00 P. M.—Compound Cathartic pills, 3; 9:00 P. M.—Magnesium sulphate, oz. 3.

September 30, 11:00 A. M.—Soapsuds enema. No results; 2:30 P. M.—Compound cathartic pills, 3; 2:30 P. M. Enema, (turpentine, 2 drams; glycerine, oz 2. soapsuds, 4 pts. (No results). 7:00 P. M.—Compound cathartic pills, 3; 7:00 P. M.—Enema, repeated. No result.

October 1, 10:00 A. M.—Milk and molasses enemas, every 3 hours. No result.

October 2.—Milk and molasses enemas, every 3 hours. 12:50 N.—Croton oil. M. 10.; 4:00 P. M.—Very good movement was obtained.

October 8.—The next bowel movement obtained was on October 8th, after a similar course of treatment.

Physical examination showed the heart and lungs normal, the abdomen was distended. There were no masses palpable in the abdomen. There was no rigidity of the muscles. There was audible peristalsis. The diagnosis of partial intestinal obstruction, due to adhesions at the sight of the ilio-sigmoidostomy was made. An operation was advised.

OPERATION.

Right rectus incision near the midline above the pubis. The conditions found were as follows:

The pelvis was full of adhesions extending over the top of the uterus and broad ligaments and there was considerable encysted fluid beneath peritoneal bands. The right ovary was the size of an egg and cystic throughout. The right tube was thickened and tortuous. The omentum and sigmoid were adherent to the uterus, tube and ovary. A loop of small gut was adherent to the sigmoid in the pelvis. There were many web-like adhesions extending from the right ovary and tube onto the small gut at the level of the pelvic brim. The gut for a foot proximal to the adhesions and beyond extending into the pelvis was distended to a greater size than the large bowel. It was evident that these bands

which produced a constriction of the small bowel were the cause of the obstruction.

TREATMENT.

All bands and adhesions were cut and separated freeing the small bowel perfectly at every point except where it was adherent to the sigmoid in the bottom of the pelvis. No raw surfaces were left. The right tube and ovary were removed and the broad ligament whipped over with No 2 chromic cat-gut. The abdomen was closed without drainage.

Subsequent to the operation we obtained the following results:

October 12, 10:00 A. M.—One milk and molasses enema. Good results, 4:00 P. M.—Second bowel movement was obtained.

October 14, 6:30 P. M.—Milk and molasses enema. Good result.

October 16.—Two bowel movements—milk and molasses enema.

October 20.—Two movements.

October 21.—Two movements. Followed the taking of a mild laxative which is not recorded on the chart.

October 22.—Two movements.

October 23.—One movement.

October 24.—One movement.

October 25.—Patient was discharged from the hospital.

LUDWIG'S ANGINA.

By J. HUNTER PEAK, Louisville.

Literally Ludwig's dyspnoea, another synonym is streptococic or mixed infectious pharyngitis. Ludwig described this condition some years ago; hence the name.

If you take the trouble to look up the literature on this subject, you will find that it is very meagre. If you take such recent works as Johnson's *Surgical Diagnosis*, you will find less than one page. Many of the best surgical writers entirely ignore this subject. On account of the frequency it has occurred in our work, I take it for granted that it is more common than one would imagine, judging from the little attention given it in our text books on surgery, therefore, I am inclined to ask your kind indulgence to listen to somewhat of a lengthened description of this very wicked disease. I want to say to you, it is a disease that may tax the energies of any surgeon, and when all efforts have been made they may prove ineffectual, and you may have to watch your patient die from general sepsis or a general involvement of one or both lungs, by an extension of the infection.

Until more recent years and only since we have acquired a better surgical technic, about 55 per cent. of all of these cases have died. Now we have a mortality of about 10 per cent.

You can hardly think of any surgical condition now, where we have such a high fatality.

The surgeon is usually called to see these cases when they are far advanced, when only very prompt operative measures will do them much good. You find the patient, more often than other wise, sitting up in the bed too sick to stay up and too much distressed to lie down. Dyspnoea is so great that in many instances they cannot assume a recumbent position.

The trouble, in the vast majority of these cases, follows either tonsillitis, an ulcer in the mouth or a carious tooth, hence, all the cases I have seen have a very offensive breath. The pain and discomforture is increased by any rotary motion of the head. The neck on the affected side is swollen and the patient carries the head inclined toward the opposite side. Talking is difficult and deglutition is often impossible. If the bacterial invasion took place through the mouth, the first point of swelling is usually sub-maxillary, in fact, the patient has the appearance of adenitis sub-maxillaris. If on the other hand, the invasion starts in the posterior buccal cavity, or in the tonsillar region, you will have the first swelling back at the angle of the jaw, beneath the sternocleidomastoid muscle, or beginning even as high as the mastoid protuberance. No matter which place the infection starts, it is only a short time, say about twenty-four to forty-eight hours, until the whole side of the face and neck takes on a brawny swelling. Not infrequently, the pus burrows toward the buccal cavity and the tongue is displaced toward the well-side. The tongue may even be considerably swollen. Sometimes, the abscess may break into the mouth, near the seat of the primary trouble, which may end the disease and your patient recover.

I have been called the first time to see these patients, unconscious, with a very rapid pulse and markedly high temperature, scanty and high colored urine and the patient quite constipated.

ETIOLOGY.

This disease is always highly infectious, that is, the patient is the subject of a violent streptococcus or mixed infection. The bacteria have found entrance either through some carious tooth, buccal abrasion, or as I have seen quite often, through the tonsils, the patient having first a very serious tonsillitis or it may be a peritonsillar abscess, with extension of the trouble to the deeper structures of the neck, through the lymph channels where the invasion takes the course of the least resistance along the facial and muscular planes toward the mediastinum.

Any previous illness, or cachexia may be a predisposing factor. Decaying teeth with

alveolar abscesses are often the starting point. We wonder why we do not have this condition more often than we do, since we know how exceedingly careless many people are with their teeth. It has not been uncommon in the past to have observed this disease to follow tonsillar infection, but in the future, it may not be so frequent a cause since it is now so popular to remove all enlarged or diseased tonsils.

SYMPTOMATOLOGY.

A history of some infectious trouble, either in the mouth or pharynx. Enlarged sub-maxillary glands, difficulty in speaking, tongue swollen and displaced to the opposite side. Dyspnoea is marked, swallowing is difficult, bad breath, neck swollen and stiff. The skin takes on a brawny hue and very great pain is manifest in infected side. Pain is made much worse on deep pressure. Ear-ache is not infrequently complained of, where the infection started through the tonsil. Pulse 90 to 120, temperature from 100 to 106, depending on the extensiveness and violence of the infection.

Diagnosis is not difficult as a rule, though one may make the mistake of taking this condition for an ordinary sub-lingual or sub-maxillary condition, save perchance a mastoiditis, will give rise to so profound symptoms of distress as we find in Ludwig's angina. Difficult breathing is sometimes very marked. The swollen neck, the brawny appearance of the skin, the awfully foul breath, the general depression of the patient, makes the diagnosis comparatively easy.

TREATMENT.

Treatment is both medical and surgical, and every case should have the skilled attention of both the family physician, so well as the surgeon. In any grave infectious condition, like we have in this disease, the kidneys, the heart, the lungs, the liver, in fact, the whole economy should have the constant watchful care of both physicians. The first thing which should be done, if time is not too much of a factor, is to obtain free catharsis. Of course, the mouth and throat as far as conditions will permit, should be thoroughly cleansed and kept clean. It goes without saying, that all of these patients should be in the hospital, where they can have the advantages only obtained there. The starting point of infection should always be treated by the free use of silver solutions. Under general anesthesia, free incisions should be made through the deep fascia of the neck. If the surgeon sees early the cases which start from the buccal cavity, a free incision parallel with the sub-maxillary bone about one finger's breadth below, will usually suffice for drainage. In all cases starting from the tonsils or posterior portion of the mouth, there

should be made the extra incision at the posterior border and parallel with the sternocleidomastoid muscle and through the deep fascia, then with the finger, or closed blunt forceps, work forward just beneath the said muscle until the other incision is reached. Free incisions of this character will stop the onward progress of the invasion, both locally and along the facial planes, which lead to the mediastinum, where the pus will finally go if not checked by free drainage. I want to say to you in closing, the only hope of all treatment is to stop the progress of the disease before its invasion of the thorax, because no power on earth can save your patient afterwards.

INVERSION OF THE UTERUS.

(REPORT OF TWO CASES WITH COMMENTARIES.)

By W. O. ROBERTS, Louisville.

It has fallen to my lot to have seen two cases of inversion of the uterus. Both occurred in young women, and in their first labors. The first case was an incomplete acute inversion following immediately upon delivery of the placenta, the other a complete inversion of over four years' standing.

The acute case was seen in 1902, before I abandoned the practice of obstetrics, with the late Dr. John G. Cecil. The patient was a thin, delicate looking woman, twenty-three years of age. The labor had been tedious. After the head had remained in the inferior strait for nearly two hours, delivery was accomplished by means of forceps. The placenta, not coming away in half an hour after the birth of the child, was quickly expelled under the Crede method. Immediately following its removal, there was much pain, copious hemorrhage, and considerable shock. Digital examination revealed an incomplete inversion of the uterus, which we succeeded in promptly reducing by means of taxis. As soon as the inversion was overcome, the pain subsided, the uterus contracted, and the hemorrhage ceased. No tamponade was used, and there was no recurrence of the inversion. The patient rallied rapidly from the shock, and made an uneventful recovery.

Six years later she bore another child. This second labor was normal, and lasted only three hours, so I have been told by her physician, Dr. Henry E. Tuley.

The second case was sent to me from Russell county, Kentucky, June 13th, 1914. The patient presented the following history: She was twenty-two years of age, married December 24, 1907, her child having been born January 29th, 1910. She said her "labor was very hard, and that she was unconscious for nearly a week," but was delivered without the aid of instruments. The placenta was removed

by the physician "within an hour after the birth of the child." Immediately thereafter the physician detected a tumor protruding from the womb, larger than a goose egg, which he said was a fibrous growth. There was not a great deal of hemorrhage following the labor, and the patient did fairly well without much hemorrhage for two months. The "flow" then became excessive and almost continuous, lasting a month or two, with intervals of only a week or so, until she presented herself at my office.

When I saw the patient she looked to be almost exsanguinated. I sent her to Sts. Mary and Elizabeth Hospital, where she was examined by Dr. C. G. Forsee and myself the following morning. Protruding into the vagina was a tumor slightly larger than a duck egg, which bled quite freely upon manipulation. Because of the hemorrhage and pain caused by manipulation of the tumor, we concluded to wait until she was under an anesthetic before deciding positively as to the nature of the trouble; but both of us were of the opinion that it was an inverted uterus.

Two days later, when she had rested somewhat from her trip, she was taken to the operating room, and, when under the anesthetic preparatory for operation, I had Doctors John K. Freeman, Simrall Anderson and W. B. Doherty examine her also, all of whom concurred in the diagnosis of inversion. The openings of the Fallopian tubes could not be detected. Owing to the congested and edematous condition of the mucous membrane, which bled freely upon manipulation, and the almost bloodless condition of the patient, it was decided best to perform simply a vaginal excision of the uterus near the constricted portion, and to close the stump with twenty-day catgut sutures. This was accordingly done.

The patient made a satisfactory recovery and left the hospital for her home at the end of two weeks. I had a letter from her husband dated August 24th, 1914, in which he says: "My wife's health and strength are steadily improving."

In looking over the literature of uterine inversion, I find that it was recognized clinically and its etiology apparently understood by the ancients, e.g., Hippocrates (430 B. C.) furnishes a clear description of the pathology, and refers to treatment by taxis. Themison (50 B. C.) suggested amputation of the bleeding and sloughing corpus uteri, and Soranus (110 A. D.) did this operation successfully.

To illustrate the rarity of *inversio uteri*, published hospital statistics give only one case in about 130,000 labors. Of the 640 cases collected by Thorn from the literature of the world prior to 1911, 82.2 per cent. were obstetrical in origin, 13 per cent. were due to

uterine tumors, 2.2 per cent occurred post mortem, 2 per cent were classified as "idiopathic," and 1.6 per cent. occurred after abortions and premature labors.* Statistics show a predominance in favor of multiparae. Each of my patients was a primipara.

As to age, inversion occurs most frequently in women between twenty and thirty years old, i.e., during that period when there are the greatest number of births, and multiparae suffer slightly oftener than primiparae.

ETIOLOGY.

Of the primary and secondary obstetrical causes, the following are entitled to specific emphasis:

(1). Primary and essential.—Uterine relaxation:

(a). From so-called uterine inertia.

(b). From mechanical failure of the musculature (paralysis).

(2). Secondary, — Fundal pressure (above), funic traction (below):

(a) From improper application of the Crede method.

(b) From inordinate funic traction.

(c) From naturally short or mechanically shortened funis.

(3). Other factors which contribute to uterine inertia:

(a) From unduly prolonged labor.

(b) From systemic debilitating diseases.

(4). Purely idiopathic.—Rare.

Of the recognized gynecological causes of inversion, only the following need be mentioned:

(1). Uterine neoplasms:

(a) Fibromata—intrauterine, submucous: polypi.

(b) Sarcoma, carcinoma.

The occurrence of inversions seems improbable unless uterine muscular tone is markedly reduced.

Of the secondary obstetrical causes, improper application of the Crede method of placental expression, and inordinate funic traction, are responsible for more than 75 per cent of inverted uteri following labor. It occasionally happens that the funis is naturally short, or is mechanically shortened by the fetus being enveloped therein, and under such circumstances inversion may occur during delivery.

The cardinal symptoms in acute inversions are pain, hemorrhage and shock. This is a rule, however, to which there are exceptions. In my second case, the patient claims there was not much hemorrhage. Vaginal examination reveals a soft, pear-shaped, bleeding, protrusion, to which in rare instances the placenta may be attached.

*See article by Jones, Surgery, Gynecology and Obstetrics, Chicago, June, 1913.

PROGNOSIS.

The prognosis as to life of the woman is always grave in acute inversion. In untreated cases, death usually promptly ensues from shock, hemorrhage, or infection. The mortality in acute inversion is given by Beckman as 14 per cent., McGlin 70 per cent., Kehrer 25 per cent., and Crosse 75 per cent. In three hundred and ninety-nine acute cases mentioned by Thurn, sixty-four of the patients died; fourteen from shock, thirty-three from hemorrhage, fifteen from infection, and two from pulmonary emboli. In eighty-three cases of chronic inversion (caused by neoplasms, including four malignant) the mortality was 8.5 per cent; one patient died of hemorrhage, and the others from cachexia and infection. Of one hundred and nine deaths in acute cases reported by Crossen, seventy-two died within half an hour to two hours, eight in from one to seven days, and six in from one to four weeks. Of one hundred and four chronic cases there were only seven deaths.

The following statistics covering two hundred and five cases compiled by Thorn (quoted by Jones), show the relative frequency with which various non-operative methods were employed:

	TIMES
Mannual reposition	166
Colpeurynter	16
Aveling's repositor	8
Tamponade and colpeurynter	7
Tamponade	5
Gabriel-Galbin instrument	3
	205

In this connection, it is interesting to note that Jones states the uterus was seriously injured in several of the cases treated by non-operative reposition, therefore it would appear that such treatment is not entirely devoid of danger.

Conservative surgical treatment: The greatest interest concerning the treatment of uterine inversion centers about the employment of operative methods, and an infinite variety of both conservative and radical procedures have been advocated. In a resume of the conservative measures, Crossen gives the following in chronological order:

(1) Multiple incisions into the constricting cervical ring (Aran, Sims, Barnes, 1861).

(2) Dilatation of constriction ring by dilator introduced through an abdominal incision (Thomas, 1869; and with incisions Everke, 1899).

(3) Dilatation of constriction ring by dilator introduced through incision in fundus. (Browne, 1883).

(4) Division of constriction ring and ad-

jacent uterine wall and cervix posteriorly, (Kustner, 1893).

(5) Complete division of posterior uterine wall and cervix, (Piccoli, Morisani, 1896).

(6) Complete division of anterior uterine wall and cervix, (Spinelli, 1900).

(7) Division of constriction ring posteriorly through an abdominal incision, (Haultain, 1901).

(8) Division of constriction ring anteriorly through an abdominal incision, (Dobbin, 1905).

Crossen believes vaginal operation is by far the safer plan. Complete division of the anterior wall of the cervix and corpus uteri, (Spinelli method) he thinks is altogether the most satisfactory method, and is the one he would strongly recommend in long-standing cases.

RADICAL SURGICAL TREATMENT.

For many years, following the suggestions of Themison and Soranus, it was the practice to excise the corpus uteri in every case of inversion where reduction could not be accomplished by taxis. More recently, however, vaginal hysterectomy has been substituted for excision, especially in the radical treatment of chronic cases.

In deciding upon the method of operative procedure, the age of the patient is entitled to first consideration, regardless of the time inversion has persisted, since the preservation of a functioning uterus is of the greatest importance in women who have not passed the child-bearing period. Therefore, in young women the uterus should not be sacrificed, provided the inversion can be reduced by taxis, cervical incision, vaginal hysterectomy, etc., unless extensive infection or gangrene has already supervened, thus making complete hysterectomy imperative as a life-saving measure. In older women where preservation of the uterus is not so important, especially in long-standing inversions, excision or total hysterectomy is the most appropriate treatment. Attempted reduction of the inversion by manual means through an abdominal incision has been followed by a high mortality, and the method is not to be recommended. Moreover, after opening the abdomen reduction of the inversion has in some cases been found impossible, and hysterectomy became necessary. The uterus may be extirpated by either the abdominal or the vaginal method, according to the judgment of the surgeon, but all things being equal the vaginal route should be selected, since the mortality is much less. In certain cases, simple vaginal excision of the protruding mass, with suture of the stump, constitutes the most appropriate method of treatment. For instance, Anspach reports a case in which the simple plan of excising the

inverted mass was adopted, because of the lessened danger of infection, and the undesirability of removing the adnexa which were normal. The pedicle was compressed by means of large hysterectomy forceps, and after excising the necrotic mass the forceps were left in situ. He believes forceps are safer than sutures because there is less liability to infection of the peritoneum.

According to Stark, the only treatment of chronic pathologic inversion worthy of consideration is the removal of any tumor present, and either hysterotomy or hysterectomy. Hysterotomy is the operation of choice when the patient is a young parous woman. It is contra-indicated and hysterectomy must be performed (a) if a malignant tumor is present; (b) if there is either thickening and hardening of the uterine wall or softening and atrophy of the musculature, and (c) if there are dense peritoneal adhesions "binding down the uterus or fixing the bladder or rectum."

Contrary to the views of other observers, Stark concludes that if hysterectomy is decided upon, the abdominal rather than the vaginal route should be selected, and this plan is also followed by Friedman.

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Chlorinated Lime in Treatment of Hospital Gangrene.—Vincent found in the Madagascar campaign that the rotting wound was rapidly transformed to healthy conditions when it was dusted with fresh chlorinated lime mixed with about ten parts pulverized boric acid. He first cleanses the wound and then covers it generously with this antiseptic powder, dusting with it the skin around. In two or three days the wound assumes an entirely different aspect. He changes the dressings in twenty-four hours if there is much secretion; otherwise he waits for forty-eight. He adds that a 20 per cent. solution of iodine would certainly aid in warding off trouble if it could be applied at the time of the first-aid dressing. It might be possible to include the material in the first-aid packet so that the wounded could make the solution fresh as needed.

MEDICAL PROGRESS

DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS.

By HARRY L. READ, Louisville.

PITUITARY EXTRACT IN OBSTETRICS.

Broadhead has recently written an exceedingly interesting article on pituitary extract in obstetrics (*New York Medical Journal*, June 27th, 1914, p. 1289). He believes that when intelligently used, in the absence of any disproportion and with good cervical dilatation, the extract is a valuable and comparatively safe therapeutic agent.

The fetal heart must be carefully watched, and chloroform should be at hand to relieve violent contractions, with forceps ready for instant use.

The extract gives satisfactory results as a rule, and is well worth a trial in properly selected cases. The author has usually given one cubic centimeter as the initial dose, repeating it every twenty minutes if necessary until three doses have been administered. If three injections fail, he has discontinued the use of the extract.

In Cesarean section he has injected the extract immediately before making the incision with excellent results. The uterus contracts well, and the operation is made easier because of the comparative absence of hemorrhage.

For post-partum hemorrhage he has never relied upon the extract alone, always combining it with ergot. He has no reason to doubt, however, that the quick action which is obtained by the use of the extract is of value in the treatment of this variety of hemorrhage.

The use of the extract as a galactagogue has never appealed to him as being practicable, and he has never employed it for this purpose. For retention of urine some observers have praised the extract highly, but in the few cases in which he has tried it the results have been nil.

So strongly is he opposed to the use of the catheter in the puerperium, however, never using it until every other known expedient has failed, that he intends giving the extract a further trial. Whether pituitary extract would possess any advantage over ergot for use under these circumstances he is unable to state.

THE THERAPEUSIS OF PERICARDITIS.

Wilbur (*Journal of the A. M. A.*, July 25th, 1914, p. 302) presents an admirable paper upon the therapeutics of pericarditis, reviewing the work of numerous other authors, and giving a brief summary of a series of experiments in which injections of bacteria and various other substances were made into the

pericardium of sixteen rabbits. His conclusions furnish much food for future thought.

(1). The accessibility of the pericardium makes local treatment valuable and surgical treatment possible, and leads to the hope that further study may permit the application of remedies directly to the interior of the acutely or chronically inflamed sac. Induced pericarditis in animals offers a good field for study along this line:

(2). Early diagnosis of dry or sero-fibrinous pericarditis permits of the most effective treatment and must be based largely on (a) vague feeling of oppression in the chest or actual pain, (b) cardiac irritability, and (c) friction rub:

(3). Early aspiration, preferably to the left of the nipple-line, is of value in the diagnosis of pericardial effusion, and tapping should be practiced when the heart-action is markedly disturbed from apparent increase in intra-pericardial pressure:

(4). The Brauer method should be more often used in patients with the evidences of pericarditis with adhesions and with early signs of cardiac hypertrophy or dilatation. It will often diminish disability and markedly prolong life:

(5). Careful attention should be paid to the differentiation of pain in the region of the heart due to pericarditis (acute or chronic) from true angina pectoris, since the prognosis is necessarily so different. Careful and repeated examinations for a friction rub should be made over the whole cardiac area in patients with precordial pain.

THERAPY OF CARDO-VASCULAR DISTURBANCES.

In his paper upon the foregoing subject, Newburgh (*Journal of the A. M. A.*, July 25, 1914, p. 311) states that the object of his investigation has been twofold: (1) to determine whether the poison of infectious diseases injures the vaso-motor mechanism, and (3) to determine whether strychnine and caffeine, both of which are commonly used to stimulate the cardio-vascular apparatus, do actually have such an effect.

Strychnine. (A) Broken Cardiac Compensation: Eight cases of broken compensation were studied. The smallest single dose of strychnine was 1-30 grain, the largest 1-10 grain. No improvement occurred in any of the eight patients who were given the strychnine. Four of them subsequently recovered their compensation, following the administration of digitalis and diuretics. He concludes, therefore, that it cannot be demonstrated that strychnine, even when given to the point of toxicity, has any beneficial effect on broken cardiac compensation.

(B). Infectious Diseases and Hypo-tensive Cases. In this group, the effect of single doses of varying size or of a number of doses given

within a short period of time on the systolic, diastolic and pulse-pressure, on the rate and character of the pulse, on the respiratory and on the general condition was studied.

The data were obtained from seven cases of lobar pneumonia varying in type from mild to fatal, two mild and one severe typhoid, one fatal infectious colitis, one delirium tremens and one traumatic shock.

The results obtained from the use of strychnine in this group of patients may be summarized as follows:

(1). Eight times out of seventeen there was no change in systolic pressure.

(2). Nine times out of thirteen there was no effect on the diastolic pressure.

(3). Nine times out of seventeen there was a rise in systolic pressure. It was inconstant, never to be relied on, and in no instance was the rise accompanied by improvement in the clinical condition.

(4). Eleven times out of sixteen the pulse showed no change. In no case was there a slowing which could be honestly attributed to the drug.

Caffein. The method adopted for studying the effects of caffeine was the same as that used for studying the effects of strychnine in the acute infectious and hypo-tensive cases.

There were three cases of severe pneumonia, one of general peritonitis, one of fatal tuberculosis enteritis, two of traumatic shock and one of fatal septicopyemia.

Results. (1) Eight out of nine times there was no effect on the systolic pressure.

(2). Five out of six times there was no effect on the diastolic pressure.

(3). Nine out of ten times there was no effect on the rate of the pulse.

(4). In no instance was there a measurable change in respiration.

Summary: (1). Strychnine does not improve or augment the work of the heart in persons suffering from broken cardiac compensation.

(2). It could not be shown that either strychnine or caffeine stimulated the cardio-vascular apparatus in any of the conditions studied.

THE USE OF SCOPOLAMINE-MORPHINE IN LABOR.

Rongy and Arluck (*New York Medical Journal*, September 26, 1914, p. 619), review the subject of *dammerschlaf* (twilight sleep) in a most interesting manner from the data of Gauss first contribution in 1906. According to those authors the action of scopolamine is chiefly upon the central nervous system; it quiets the cerebrum, diminishes the perception of pain without apparently influencing the contractility of the uterus; labor, therefore, may progress uninterruptedly and the

patient may not only fail to recollect pain, but may even be entirely unaware of it.

Technic. Treatment is begun only when the patient shows definite signs of active labor. The patient is then put to bed in a dimly lighted room and an initial dose of 0.00045 gram, or approximately 1-160 grain of scopolamine hydrobromide is injected intramuscularly. This is preceded by a hypodermic injection of one-half grain of morphine-narcotine meconate. The effects are now carefully observed with special reference to pulse, respiration, pupillary reaction, fetal heart, and intensity and frequency of uterine contractions. A second injection of scopolamine is given about one hour after the first. About half an hour after this injection, memory tests are brought into play. The patient is shown some object, such as a doll or a watch, and a short while later she is asked whether she saw the particular object in question. She may be asked whether she had a hypodermic injection. Any test of memory will do. The repetition of injections is now primarily gauged by the degree of amnesia present. The interval between injections is approximately from one to one and a half hours. The average normal case requires five to seven injections, although at times it may be necessary to give only two or three, or as many as twelve, or fourteen.

After the completion of the first stage, with the presenting part on the perineum, one c.c. of pituitrin is often given to hasten delivery. As soon as the child is born, the cord is quickly ligated and severed and the infant is removed to another room. The mother, after being made comfortable, generally falls into a deep sleep, to awake from two to four hours later usually, in complete ignorance of the fact that she has given birth to a child.

Conclusions: Standard solutions are absolutely essential to the success of this treatment. The facilities should be such that the patient is not unduly disturbed. The treatment does not affect the first stage of labor, but the second stage is somewhat prolonged. Pain is markedly diminished in all cases, while amnesia is present in the greatest number of patients. This treatment does not in measure which may be deemed necessary for any way interfere with any other therapeutic termination of labor. The fetal heart sounds must be carefully watched; sudden slowing calls for immediate delivery when possible or the discontinuance of the treatment. The authors state, however, that oligopnea which is sometimes present produces no ill effects, for the babies quickly resume normal respiration and good heart action, and they have noticed no excessive hemorrhage under this form of treatment.

Finally, judging from their observations

and experience, they feel that this method of treatment should be given a fair trial. It is only the varied experience of competent men that will tend to settle this extremely interesting subject. It is the duty of the medical profession to set the public aright on this very important question. For their part the authors believe that this mode of treatment relieves the woman of the agonies of labor and in addition instills a feeling of confidence which materially aids her in passing through the trying ordeal.

THE TREATMENT OF TETANUS BY ANTITOXIN.

According to Irons (*Journal of the A. M. A.*, June 27th, 1914, p. 2025) the efficacy of antitetanic serum in the treatment of developed tetanus has been questioned by many experienced clinicians, who have regarded the recoveries in occasional cases of tetanus under large doses of serum as fortuitous; and if one may judge from the lukewarm advocacy of serum in most text books, the general impression of the profession is that but little can be accomplished by its use. A study of the mortality statistics of most hospitals shows that this skepticism too often has been well founded. Opposed to this pessimistic view are the reports of a number of small groups of carefully observed cases, such as those of Ashurst and John, in which the evidence seems strong that antitoxin deserved large credit for the recovery of some of the patients, and that the mode of administration of the remedy is a very important element in its success.

Irons says the prophylactic value of tetanus antitoxin is established, and needs no argument for its support. That tetanus antitoxin properly used may save the life of a patient in whom tetanus has already developed should be more generally recognized, and the treatment employed in every case at the earliest moment. Every hour lost before the giving of the antitoxin decreases the chance of saving life. By no means will every patient recover, but certainly more can be saved than have been in the last five years, and there is every reason to anticipate that with a proper use of antitoxin a mortality considerably lower than that of the present will be obtained.

It is important that the full effect of the antitoxin be obtained immediately, and this may be accomplished by giving, as outlined by Park, 3,000 units intra-spinaly, and from 10,000 to 20,000 units intra-venously at the earliest possible moment after symptoms of tetanus appear. On the following day the intra-spinal injection of 3,000 units may be repeated. The blood remains strongly antitoxic for several days. On the fourth or fifth day 10,000 units should be given subcutaneously to maintain the antitoxic content of the blood.

given in some cases over periods of many days

It is doubtful whether the enormous doses are any more effective than the more limited dosage outlined above. If only a small amount of antitoxin (3,000 units) is available it should be given intra-spinally. Intra-spinal and intra-venous injections should be given with all the precautions usually enjoined for these methods.

This use of antitoxin in no respect replaces other recognized non-specific methods of treatment in tetanus. Surgical treatment of the site of infection should be instituted at once. The patient should be placed at rest in bed in a quiet darkened room, and should receive sufficient sedatives to control convulsions, together with adequate supply of fluid nourishment and attention to elimination by kidney and bowel. The necessity for large and continued doses of sedatives, such as chloral or chlorbutanol, should not blind the physician to the possible danger of giving an overdose.

The condition of the patient should be carefully watched and a revision of the standing orders for sedatives made whenever the symptoms suggest the necessity for decrease or increase of dose.

Diaphragmatic Hernia.—Following a stab wound in the posterior axillary line about the third intercostal space on the left side of the chest, McGuire's patient developed a diaphragmatic hernia. The history, symptoms, physical examination and roentgenographic findings all pointed to diaphragmatic hernia, with escape of practically the entire stomach into the left thoracic cavity. A very dense and firm adhesion was found between the cardiac end of the stomach and the posterolateral surface of the chest wall just opposite the stab wound. This was peeled loose after considerable effort and there was at once the escape of some stomach contents. The stomach was delivered through the opening into the thorax and an incision 3 inches long found on its anterior surface beginning near the esophageal opening and extending in the direction of its greater curvature. The edges of this incision did not bleed and showed evidences of cicatrization, hence it seems reasonable to believe that the rupture of the diaphragm and hernia of the stomach resulted from a blow and injury inflicted on the abdomen prior to the cutting, and that when the stab wound was made in the third intercostal space the vulnerating instrument cut the stomach which was already in the left thoracic cavity. The rupture in the diaphragm was about 4 inches in length, beginning near the esophageal opening and extending through the left leaf toward the sternum. The patient recovered.

ORIGINAL ARTICLES

THE TREATMENT OF ARTERIAL HYPERTENSION.

By SIDNEY J. MEYERS, Louisville.

In considering the treatment of arterial hypertension, it must be remembered at the outset that hypertension, *per se* (as well as its antithesis hypotension), is merely a subjective expression having its origin in some underlying cause, i. e., it is purely a clinical manifestation the etiology of which may or may not be definitely demonstrable. Technically, therefore, it would appear inaccurate to speak of the "treatment of arterial hypertension" as a disease, since the observed symptoms are not entitled to inclusion in the category of clinical entities. However, as it has been customary to classify hypertension as a definite lesion, the writer will abide by the established custom without for a moment admitting its correctness, since to do otherwise would entail lengthy explanatory commentaries which would add practically nothing of value to our present knowledge of the subject.

It must be obvious that the most important desideratum in the treatment of arterial hypertension, wherever it is possible to do so, is to ascertain and remove the cause, otherwise remedial measures instituted may not only be misdirected but may be absolutely contraindicated and therefore harmful to the patient. Bearing this pertinent observation in mind, it is equally obvious that treatment to be effective must be predicated upon an accurate understanding of the essential etiological factor whatever it may be, since the former is necessarily dependent upon the latter. Moreover, in the majority of instances the hypertension may be regarded as compensatory and reparative, and its reduction beyond certain well-defined limits may be harmful rather than beneficial to the patient. Therefore, the institution of treatment without ascertaining the cause of the symptoms may oftentimes be courting disaster.

The writer seriously questions whether the active or so-called routine drug treatment of arterial hypertension can possibly be justified upon any hypothesis hitherto suggested, without first making every effort to ascertain the cause of the symptoms. Of course the angles or viewpoints concerning the treatment of every obscure malady are as numerous as the theories advanced to explain its causation; but something more tangible than theory is required upon which to base rational therapeutics. Thus, according to his favorite theory, one practitioner may unwisely over-treat the unfortunate patient with an abnormally high blood pressure, whereas an-

other may advocate a strict attitude of *noli me tangere*. Such observations contribute nothing of value to our knowledge concerning treatment.

It has been customary among various observers to speak of arterial hypertension as acute and chronic, but such a distinction is entirely unnecessary and may be misleading. As hypertension almost invariably owes its origin to some definite underlying cause, it can be considered neither acute nor chronic excepting in so far as the statement may be applied to the essential causative factor.

The factors which may be operative in the production of arterial hypertension are so numerous and diversified that to minutely describe all of them would unduly prolong this paper, although, as previously intimated, without an adequate etiological understanding the institution of rational treatment may be impossible. Necessarily therefore, a few of the most important causative factors must be considered.

Obviously any disturbance of the peripheral circulatory system will produce its effect upon normal blood pressure; likewise, anything which will seriously interfere with the cardiac, deeper vascular, renal, alimentary or nervous mechanism of the economy, may be productive of similar effects. Thus hypertension may owe its origin to any serious systemic disease; to lesions involving the heart; to inordinate indulgence in alcohol and tobacco; to systemic poisoning from lead or the various chemicals; to nervous affections; to purely emotional causes. In the latter the hypertension is transitory, the slightest excitement induces a recurrence, and it is usually intractable under any method of treatment, as it depends upon a purely intangible basis.

The prolonged administration of drugs included in the heterogenous group designated as vaso-constrictors may cause arterial hypertension; therefore, their indiscriminate employment may have a harmful influence. An excess of the so-called purine or nuclein bodies in the circulation may induce gout, rheumatism, etc., and thus favor the production of hypertension. Luxurious living (high living), physical and mental strain, and auto-intoxication from faulty metabolism, are also prolific causes.

The ancient adage that "a man is as old as his arteries" has lost none of its truth by frequent repetition; thus, an individual may exhibit evidences of senility at twenty, or may be youthful at eighty. The average normal systolic blood pressure of an individual between the age of eighteen and thirty years may be approximately stated as 110 to 140, and between sixty and seventy years as 130 to 165. Any radical variation from these

approximate figures may be considered abnormal.

The routine exhibition of drugs for the purpose of lowering arterial tension has proven unsatisfactory, and at best their effects can only be temporary. However, in hypertension from any cause much benefit may be secured by regulating the diet, reducing the quantity of food ingested, especially the nitrogenous varieties, the interdiction of alcohol and tobacco, the ingestion of pure water between meals, and the securing of adequate elimination through the alimentary tract, the kidneys and the skin by appropriate remedies. Moderate exercise and frequent bathing are beneficial, but mental worry and physical fatigue should be strenuously avoided.

In many instances tension may be reduced by venesection, and twenty to twenty-four ounces of blood may be safely withdrawn provided the operation be not too frequently repeated.

Strange as it may seem, arterial hypertension does not invariably accompany arteriosclerosis and chronic nephritis, and when occurring under such circumstances, it may be regarded as compensatory. High blood pressure in nephritis is necessary to insure proper elimination through the damaged kidneys, and in arteriosclerosis increased pressure promotes free circulation in organs where the blood supply would otherwise be limited. In these two diseases, therefore, the advisability of attempting to reduce the tension by the administration of drugs is open to serious question. In the majority of infectious fevers, however, hypertension has a more sinister significance, being due to loss of the liquid constituents of the blood with consequent vasoconstriction, and prompt efforts should be made looking toward reduction pending recovery of the patient from the systemic disease.

The prophylactic treatment of hypertension is of paramount importance, and briefly consists of (1) the correction of dietary errors, (2) the strict observance of general hygienic and sanitary principles, (3) frequent urinalysis and blood examinations, (4) proper elimination, particularly through the intestinal tract. The administration of artificially prepared buttermilk (*Bacillus bulgaricus*) and Russian oil may be advantageous in promoting intestinal antiseptics, thus preventing stasis and auto-intoxication. If any local infection be present, such as pyorrhea alveolaris, sinusitis, etc., it should receive the necessary treatment.

If hypertension is evident when the patient is first observed, it matters not what may be the cause of the symptoms, the primary indication is rest in bed with minimum dietary,

which may be prolonged for two or three weeks if necessary. The mental relaxation thus secured is probably of equal importance to the enforced physical repose. Later the patient may partake of food regularly but sparingly, ingesting only such articles as are easy of digestion and readily assimilated. All food should be slowly eaten and thoroughly masticated, the heartiest meal being ingested at midday; liquids during meals should be limited, but pure water *ad libitum* may be allowed between meals. A short rest (siesta) after eating is desirable.

Free elimination may be secured by the administration of mild laxatives, such as small doses of calomel, blue mass, magnesium sulphate, etc. The beneficial effect is produced by depleting the portal system and removing toxic materials. Excessive sudation should not be artificially induced in the steam room or otherwise. Such treatment is depressing and for obvious reasons oftentimes dangerous in the treatment of hypertension. On the contrary, however, the dry hot pack may be of the greatest service.

It is a matter of common observation that arterial tension is markedly lessened during sleep, i. e., nocturnal blood pressure is normally less than diurnal, and *vice versa*; consequently it is important that the patient secure the proper amount of absolute rest. It is inadvisable, however, to resort to sleep-producing drugs so long as rest can be otherwise obtained. A moderately warm general bath, hot mustard foot baths, and light massage before retiring, will usually insure sufficient refreshing sleep.

In suitable weather, provided the patient is physically able to remain in the open air, mild forms of exercise are beneficial. Walking is recommended as the most appropriate form of physical exercise, but golf playing may be permitted with caution against prolonged and violent efforts. The beneficial effects derived from exercise are probably largely attributable to the greater peripheral distribution of blood, sudation, improved digestion, and partially to the psychic relaxation thus induced.

The diet should consist principally of milk and vegetables, with red meats and eggs in small quantities. The main dietary dictum should be moderation. While a salt free diet would seem ideal and markedly lighten renal function, it is irksome to the patient and thus difficult to be secured. Bulky foodstuffs, gravies, soups, condiments, etc., should be interdicted. Neither mental nor physical exertion should be permitted immediately after eating.

The conservation of the energy of the patient is one of the most important features. In the early stages of increased blood pres-

sure the proper regulation of the daily life and diet is the only rational or efficacious method of treatment (Norris). So far as it may be possible all sources of worry and excitement must be eliminated, and the physical and mental responsibilities of the patient be reduced to the minimum.

While the so-called "irrigation treatment" to reduce hypertension has long since been proven a delusion, there are still otherwise apparently intelligent practitioners who advise the ingestion of enormous quantities of fluids with the idea of "flushing the kidneys and diluting the poisonous material in the blood stream." Such treatment is not only ineffective, but the logical result is aggravation of the symptoms by increasing the work of the already over-burdened kidneys.

As previously indicated, moderate sudation is always desirable, but excessive sweating by means of Turkish, steam, hot air, electric and other varieties of hot baths, is not to be recommended. The hot bath causes marked temporary increase in blood pressure before sudation occurs, and may therefore be attended by serious dangers to the patient, such as vascular strain, cardiac rupture, and general reduction of nervous tone. Warm baths, however, as already noted may be advantageously employed.

General massage moderately applied is one of the most efficacious methods of treatment which has thus far been advocated for the reduction of arterial hypertension. "It supplies many of the benefits of exercise without the attendant expenditure of energy" (Norris), and is advocated as a routine measure. In selected cases good results have also been reported from the employment of vibratory massage.

Climate should be mentioned in this connection, as it has an important bearing upon the physical and mental comfort of the patient. A warm equable climate is especially desirable, such, for instance, as that of Jamaica, the Bermudas, Hawaii, Southern California, etc. Florida is less favorable because of the sudden changes in atmospheric temperature, and the excessive humidity.

Change of environment is oftentimes beneficial, the seashore or the mountains, freedom from business cares and worries being thus secured.

The undesirability of active routine drug treatment has already been mentioned. There are certain remedies, however, which may be of benefit when judiciously and cautiously administered, viz., amyl nitrite, sodii nitrite, nitroglycerine, digitalis, and the iodides. When angina is a prominent symptom, with inefficient compensation, opiates may be permissible. The intra-venous injection of salvarsan may be useful in certain cases.

DISEASES AND INJURIES FOLLOWING CHILDBIRTH.

By A. W. NICKLE, Louisville.

Inasmuch as numerous gynecological affections date from child-birth, there is manifestly a wide field for the exercise of prophylaxis in obstetrical practice. Therefore, the prevention of a majority of serious gynecological work lies in the hands of the general practitioners who are perhaps, doing 90 per cent of the obstetrical work to-day. I want to say "Its a far higher function of the profession to prevent the thousands of cases of rupture of the perineum and lacerations of uterine and vaginal strictures than to cure the same number by appropriate surgical procedure, however brilliant or praiseworthy the latter may be."

I deem labor a physiological process; therefore if the mother's health is good, her pelvis normal with good tissue resistance she should rise up from the puerperium, a perfectly sound woman, unless the child presented some abnormality or the labor was improperly conducted. Certain slight injuries and changes are liable to occur in a normal labor but so slight as to be classed as physiological; for instance, a big uterus commencing to contract with a raw inner surface discharging lochia or a fresh lacerated wound of the cervix which may be bilateral but very slight, a lax distended vagina with everted orifice with fissures extending to the hymen, superficial laceration of perineum with one or two shallow branches extending into vaginal sulci, dilatation and eversion of the rectum with dilatation of veins most often in multiparae, slight hypertrophy of uterus and a widening of vagina with perhaps slight lacerations of the introitus.

Abnormal and Pathological Sequelae are: Mechanical injuries, as deep tears or ruptures, sloughs, retroflexion, relaxation, descensus and prolapse, infections of both upper and lower genital tracts including uterus and tubes, pelvic cellular tissue, vagina, bladder and perineum, Venous thrombosis in broad ligaments, toxemias resulting in Bright's disease and its sequelae, and nerve exhaustion. These pathological sequelae terminate in a variety of gynecological conditions which are perhaps not manifested for months or years later. The mechanical injuries cause deep laceration of the cervix extending down onto the lateral walls in the shape of falciform scars which serve to fix the uterus to the pelvic wall. Radiating scars are found at the pelvic outlet commencing in the perineum and extending upward in a V-shape to the right and left sulci. Rarely the perineum is infiltrated and still more rarely the child is born

per anum. The extreme form of injury at the pelvic outlet is a complete tear separating the septum between vagina and rectum, and throwing both outlets into one common cloaca. Among the tears which become serious in their consequences later on, but are not always susceptible at the time sustained is, injury received from separation of levator ani muscle from its insertion to the rectum. This injury associated with tear of the perineum results in loss of support to the lower part of the bowel with formation of rectocele or eversion of lower vaginal wall. The relaxed outlet is recognized by the vertical direction of the levator fibres just behind the pubic arch, replacing the strong band felt when the posterior vaginal wall is lifted up in the unbroken ring. To be precise as to the degree of breaking down of the outlet it is best to use the calibrator which by separating its blades to a maximum and using only slight force the degree of relaxation is read in centimeters from the scales attached to the handles.

Infections acquired in childbirth may spread so rapidly and extensively that if the patient recovers it is with tubes adherent or distended with pus, an endocervicitis or endometritis, an intractable vaginitis or cystitis or an infection of the vulvo-vaginal glands. We sometimes see complete nerve exhaustion in our patient, who without apparent injury has passed through her confinement which has seemingly required the expenditure of all her individual nerve force and she remains exhausted for years or perhaps her entire life. This condition is often seen in women who have borne a number of children in rapid succession and where the demands for lactation have been heavy. Combinations of these sequellae are often seen, e. g., the patient may have extensive laceration of the cervix and vaginal vault or infection of the tubes with a retroflexed adherent uterus or vesico-vaginal fistula, due to the sloughing of the anterior vaginal wall with a complete tear of the perineum or extensive mechanical injury accompanied by nervous exhaustion.

As to Prevention: If the practitioner who attends obstetrical cases would inform himself a little more in this field and get the proper conception of what should be done and the correct way to do it and fully realize the evil consequences of a faulty technique, these injuries could be largely anticipated and prevented and work in this department would be limited principally to venereal diseases, tuberculosis and tumors. *Prevention*, then undoubtedly lies to a great extent within the power of the medical attendant for the following conditions are almost completely under his control. He can often prevent mechanical injuries or obviate any ill consequences by their immediate repair. He can as a rule pre-

vent an infection by his aseptic conduct of the case. He can lessen exhaustion by timely and skillful interference. To attain these results obstetrical cases must be taken more seriously than is the case to-day and it should be regarded as the one branch of medicine which constitutes a universal specialty, for all physicians in general practice, like surgery, many incompetent fledgelings are found in both fields. The man who assumes charge of an obstetrical case must never get in a hurry to have it over. He must be willing to spend his time at the bedside of his patient and wait as long as necessary for the welfare of the helpless woman who trusts her life and health to his care. He should be well-skilled in the use of obstetric forceps and be fully convinced that their use may be a great evil as well as a boon to a woman in the throes of labor.

Use of Forceps: To make the best use of forceps we should observe the following: In preparing for forcep delivery an accurate, aseptic technic should be observed. I first, cleanse the vulva and vaginal introitus with soap and water, followed by an antiseptic solution, don't ordinarily give vaginal douche. Thoroughly sterilize forceps by boiling, and after cleansing the hands cover them with sterilized rubber gloves. Successful forcep deliveries demand that we have a correct knowledge of the normal and abnormal mechanism of labor and must also recognize the exact position and presentation of foetus. Mechanical skill and manual dexterity render the obstetrician more efficient but the most skillful use of the ordinary forceps cannot equal the results obtained with an axis traction forceps in less able hands. A practical knowledge of pelvimetry is of much importance. Five or six measurements are called for and these are easily taken with a tape measure and pair of calipers, rendering pelvimetry no wonderful task as you sometimes would be led to believe.

The physician must make it a strict rule to never operate through an undilated cervix. Disregard of this rule together with a faulty technique is the cause of many of the disastrous forcep deliveries. The wide awake and skilled operator appreciates the necessity for preliminary dilatation of the lower birth canal and when natural forces fail we must be familiar with the most excellent methods to secure such results. In order of their safety there are, rubber bags, such as Pomeroy or Champetier De Ribes, and the Voorhees bag, for I like best the pear shaped bags. Of the manual, methods those of Harris & Edgar and the gradual metal dilators of the Hegar type are best. Next to rigid asepsis nothing contributes to successful forceps de-

liveries like a well dilated lower birth canal before proceeding.

In eclampsia, where immediate delivery is the chief consideration the attendant must not yield to the first impulse, and grasp a foot as soon as you feel it and pull it through the undilated cervix. It is better to finish the dilatation with the fingers while patient is under the anaesthetic. The best finger methods are by stretching the cervix by introducing index finger and thumb, best accomplished when head is well up (Harris) and by pulling the cervix apart which is best accomplished when the head is low down (Edgar's). The operator will do well to make use of high forceps operations but rarely and when necessary use an axis-traction instrument and I personally prefer the Tarnier. The physician who uses the axis-traction forceps should have a clear mental picture of the pelvic axis in which the head lies at any time. In general the operator pulls down toward the pelvic floor then out under the pubic rami and upwards. The alternative is to await with patience for considerable time so as to give the cervix a long time to dilate and the head to mold itself to the pelvic canal. Serious harm is often done by trying to assist nature overmuch by trying to push the cervix back over the head or stretch it with the fingers. If the head gets wedged at a given point injudicious use of forceps will cause a slough which, as a rule, extends into the bladder and sometimes the rectum. In William's Clinic at Johns Hopkins Hospital the rule is to interfere if the head becomes wedged in one place for two hours. Good evidence that the frequent use of forceps is an abuse is proven by the fact that so many excellent practitioners in country districts manage hundreds of cases without resorting to them in a single instance. When necessary to use forceps, injury to the bladder can to a great extent be obviated by first emptying it with a soft rubber catheter. It is also important that the physician should not be in a hurry to terminate the third stage of labor. The placenta should be given an hour to affect a delivery and during this time should use nothing but moderate force in pushing down from above. If placenta is not delivered into vagina by this time it may be attached to uterus as a sequel of endometritis. The best method of removal is by introducing a gloved hand into uterus and use edge of hand as though it were a knife to scrape placenta off from wall and don't pull on the cord to help expedite it. The perineum is best protected by restraining the head from passing suddenly and precipitately through the outlet under force of a violent expulsive pain. Precipitate delivery through vagina and vulvar ring is likely to occur during forceps deliveries. Perineum can be prevented from rup-

ture by two methods: (1) by the judicious use of chloroform a few drops started when the head reaches the vulva, increase till head escapes. (2) By resistance of rapid dilatation of outlet and expulsion of the head with gauze pad on perineum. During forcep deliveries the head must never be extracted from the vulva by one effort at traction but brought down slowly and deliberately as much after nature's method as possible, by allowing it to return between pains and come down a little farther next time or removing forceps and let nature finish the work unassisted. Hasty obstetric work has been a great source of danger to parturient women since men discovered how to assist nature in this important work. Enough stress is not laid on shoulder tears. As to repairing of perineum, if deeply torn sew it up at once. It is the practice at Johns Hopkins Hospital to close the perineal tear after the birth of child and before the placenta is delivered. This keeps the physician actively engaged and tends to greater deliberation in dealing with the placenta and obviates future trouble.

To repair the perineum, bring the patient to the edge of the bed and expose the wound by retractors and close with silk-worm gut sutures, extending when necessary up each vaginal sulcus and on the perineal surface. If the injury goes into the bowel, the sutures must be passed with proper care to secure accurate approximation. The sutures in the perineal wound should not be tied tight, to allow for swelling of tissues, tight sutures are liable to cut through. They should be placed about one-third of an inch from margin of wound. For this I use a large curved needle in a strong needle holder, armed with silk-worm gut suture. This is passed from one side well down to bottom of wound and then up and out at a corresponding point at opposite side of tear. Two or three sutures are generally sufficient to close a large wound. It is a mistake to put in a number of sutures, as in the secondary operation, as a little drainage between sutures does no harm. The sphincter ends are best united by a suture of silk worm gut which transfixes the muscle and passes up through the vagina. The remainder of the perineal and vaginal wound is closed by a series of interrupted silk-worm gut sutures.

If a persistent hemorrhage occurs when the uterus is well contracted we should suspect a torn cervix. Its presence can be demonstrated by bringing the patient to the side of the bed, retracting the perineum, catching the anterior and posterior lips of the cervix with forceps and pulling them together, and we generally note a bright stream of blood between lips of tear. Repair is effected by passing two or three chromacized cat-gut sutures

with a stout curved needle and tie them at once. As to precaution against infection. The obstetrician must give minute attention to personal cleanliness. It should be a fixed rule to wear rubber gloves and make as few examinations as possible during labor. He should be extremely careful about coming in contact with infectious material between times. He should never examine a puerperal infection, etc., without being protected by rubber gloves and in driving he should wear gloves that can be washed and boiled. The use of an obstetric cushion among the poorer classes is valuable in the conduct of labor as it leaves the bedding clean and minimizes the amount of danger; it should be covered with a sterile sheet and as the amnion escapes it can be dried up with absorbent cotton or sterile towel. The cushion can be sterilized by boiling and by all means the operator should wear a sterilized gown, if a sterilized suit of clothes are not in readiness, attention to these precautions with the surgical cleanliness of field of operations would relieve the physician of much responsibility and criticism which always arises in connection with puerperal infection. If necessary to catheterize after labor the greatest care must be exercised to have a clean well-boiled catheter and cleanse the orifice thoroughly with clean warm boric acid solution before introducing it and insert it with great caution under direct inspection to avoid trauma or the introduction of extraneous matter. The nurse is a potent factor in the weal or woe of the lying-in patient. Careless midwives who go from place to place indifferent to all consideration, except the fee they obtain, often carry with them the seeds of infection and their progress might easily be traced by the funerals which follow in their train. We stand greatly in need of a well-trained corps of midwives regulated by proper laws. Such a body is found at present only in Germany. The physician should know about cases the nurse has recently attended. He should be sure she has no infectious disease, no sore about her person or osena. That she is not meddling nor anxious to give douches. That she is fully instructed in the details of a correct antepartum toilet of her patient as well as the surgical care of the genitalia and breasts.

Experimental Ligation of One Ureter.—Jones has ligated the ureter in fifty-two dogs; and the results of this work together with observations on a personal clinical case of probable urethral obstruction by accident, constitute the basis of this paper. Its length and detail do not permit of making an abstract. Therefore the original should be consulted.

COUNTY SOCIETY REPORTS

Franklin—The Franklin County Medical Society met at the office of Drs. Williams & Mastin on Monday, December 7th, at 11 o'clock A. M. Present, Drs. Jackson, Mastin, Minnish, Garrett, Wilson, Coleman, Keller, Patterson, Montfort, Heilman and Williams.

Minutes of the February meeting read and approved since which time we have had no quorum until to-day.

In the absence of a paper, clinical cases were discussed.

This being the date for the election of officers for the ensuing year, the election by private ballot was entered into, and resulted in the election of the following: President, H. S. Keller; Vice President, G. H. Heilman; Secretary and Treasurer, U. V. Williams; Delegate to the State Medical Association, Warren Montfort; Alternate, U. V. Williams; Censors for the year, Jno. Patterson and J. S. Coleman.

H. S. Keller was appointed essayist for the next meeting; subject of his own selection.

A general discussion was ordered, for the second number on the program, to be "Is the Mouth and Hoof Disease of Cattle communicable to the human species and is it a fact that the disease in cattle is originated by the turning back to the farms of heifers used in the various institutions, manufacturing antitoxins for communicable diseases?" They are known to be unhealthy, after being so treated and are believed to be the source of infection and should be investigated.

Adjourned to meet January 5, 1915 at 8 P. M., at the usual place.

U. V. WILLIAMS, Secretary.

Russell—The Russell County Medical Society met at the Holt Hotel, Jamestown, December 2, 1914. Called to order by the President L. D. Hammond. After the reading and adoption of the minutes of last meeting the election of officers for 1915 was held which resulted as follows: L. D. Hammond, President; J. S. Rowe, Vice President; J. B. Scholl, Secretary-Treasurer; W. G. D. Flanagan, J. M. Blair, Censors; By neglect or forgetfulness failed to elect another censor. Therefore it will become the duty of the president to appoint one until the next regular Annual meeting.

J. B. Scholl was elected delegate and J. I. McClendon, alternate.

Application for membership by Drs. M. M. Laurence, Rowena; and P. V. Ballou, Rowena, referred to censors and reported favorable and they were elected in due form. J. I. McClendon who was a member a few years ago, was reinstated or admitted to membership unanimously.

After greeting the newly elected members and Dr. McClendon coming in again, this gets nearly every doctor in Russell county who is in active

practice, and I hope ere long or at least before the three months of Grace, or April the first, 1915, all will become members. After all the official business of the society had been peacefully dispensed with.

L. D. Hammond read a paper on "Medical Ethics." All the members had a word of praise for the doctor's paper and his able management of the society.

J. B. Scholl read a paper on "Medical Society," or the origin of the Russell County Medical Society. He emphasized the fact that the Russell County Medical Society was past the 25th anniversary, it being organized June, 1889, with much grief said he was the only charter member now living. Each doctor present looked hale and hearty and acted like doctors always do, good, kind, nice, decent, a kind word for everybody present and just like Russell County doctors. They will "lend" you a dollar or the shirt off their back if they think you need it. I was much pleased to see the "boys" (Drs.) saying howdy doe and striking hands with each other and asking each other how's your wife and family an dothers, how's your sweetheart? Now you don't know how good I felt to see these stalwart Russell county doctors laughing and talking and joking each other at dinner and in the lobby of the Holt Hotel. Makes me think old things have passed away. All are made anew. I was in the lobby of the hotel and at dinner and in the assembly hall (parlors of the Holt Hotel) trying to get what was done but like the "queen" I can't begin to tell half of the rich and good things that transpired. All the doctors present were ready to take part in the proceedings and made talks and promised to attend regularly and promised that they would aid in a whirlwind public health meeting beginning early in the spring and continue throughout the season. I know there is new life in our society and I do hope every doctor will continue to make it the best one as well as the oldest one. By the way of remark I have seen, I think, in the Journal that the Russell County Medical Society was an offspring of such and such a county society. I want to say that the Russell County Medical Society is not an offspring from any other county society but it originated by itself, (or I reckon De novi) and other counties later followed. Away back in 1889 I was just about the size I am now. Just about as big as a three-cent piece and my lip drops down like a motherless colt, when I hear any one "throwing off" on a Russell county doctor or the Russell County Medical Society.

Hoping this will be the best year in the history of the Kentucky State Medical Association, I remain,

Respectfully,

J. B. SCHOLL, Secretary.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	January 8.
Allen	H. M. Meredith	Scottsville	January 24.
Anderson	J. W. Gilbert	Lawrenceburg	January 5.
Ballard	W. A. Page	Barlow	January 13.
Barren	J. W. Acton	Glasgow	January 21.
Bath	H. J. Dailey	Owingsville	January 12.
Bell	O. P. Nuchols	Pineville	January 9.
Boone	M. A. Yelton	Burlington	January 21.
Bourbon	C. G. Laugherty	Paris	January 15.
Boyd	C. K. Kercheval	Ashland	January 5, 26.
Boyle	W. H. Smith	Danville	January 13.
Breathitt	A. M. Arnold	Jackson	January 7.
Breckinridge	J. E. Kincheloe	Hardinsburg	January 8.
Bullitt	S. H. Ridgway	Shepherdsville	January 12.
Butler	J. H. Austin	Morgantown	January 7.
Caldwell	R. W. Ogilvie	Princeton	January 13.
Calloway	W. H. Graves	Murray	January 14.
Campbell-Kenton	F. A. Stine	Newport	January 15.
Carlisle	T. J. Marshall	Bardwell	January 6.
Carrroll	F. M. Gaines	Carrollton	January 13.
Carter	J. W. Stovall	Grayson	January 13.
Casey	L. F. Hammonds	Dunnville	January 20.
Christian	W. S. Sandbach	Caskey	January 22.
Clark	H. R. Henry	Winchester	January 20.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	January 7.
Cumberland	Oscar Keen	Burkesville	January 14.
Daviess	J. J. Rodman	Owensboro	January 20.
Elliott			
Estill	G. A. Embry	Irvine	January 14.
Fayette	L. C. Redmon	Lexington	January 13.
Fleming	J. B. O'Bannon	Mt. Carmel	January 21.
Franklin	U. V. Williams	Frankfort	January 5.
Fulton	C. B. Curlin	Hickman	
Gallatin	J. M. Stallard	Sparta	January 15.
Garrard	J. B. Kinnaird	Lancaster	January 15.
Grant	C. M. Eckler	Williamstown	January 21.
Graves	H. H. Hunt	Mayfield	January 7.
Grayson	C. L. Sherman	Millwood	January 7.
Greenup	J. I. Rathburn	Russell	January 21.
Hardin	E. J. Strickler	Elizabethtown	January 8.
Harlan	Arthur Jenkins	Harlan	January 6.
Harrison	W. B. Moore	Cynthiana	January 5.
Hart	C. H. Moore	Canmer	January 6.
Henderson	B. J. Neary	Henderson	January 12, 26.
Henry	Owen Carroll	New Castle	January 19.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	January 1.
Jackson	G. C. Goodman	Welchburg	January 7.
Jefferson	A. C. L. Percefull	Louisville	Every Monday Evening
Jessamine	J. A. VanArsdall	Nicholasville	January 22.
Johnson	J. H. Holbrook	Paintsville	January 3.
Knott	Owen Pigman	Mallie	January 24.
Knox	C. L. Heath	Lindsay	January 26.
Larue	W. E. Rodman	Hodgenville	January 15.
Laurel	Oscar D. Brock	London	January 21.
Lee	A. B. Hoskins	Beattyville	January 10.
Leslie	R. L. Collins	Hyden	January 28.
Lewis	A. C. Henthorn	Vanceburg	January 19.
Lincoln	D. B. Southard	Stanford	January 16.
Livingston	Edward Davenport	Hampton	
Logan	Walter Byrne, Jr.	Russellville	January 13.
Lyon	J. H. Hussey	Eddyville	January 20.
McCracken	H. P. Linn	Paducah	January 14, 28.
McLean	W. H. Moore	Sacramento	January 13.
Madison	Murison Dunn	Richmond	January 8.
Magoffin	M. C. Kash	Salyersville	January 3.
Marion	R. C. McChord	Lebanon	January 20.
Marshall	E. D. Covington	Hardin	January 14.
Mason	C. McGuire	Maysville	January 5.
Meade	E. C. Hartman	Brandenburg	January 22.
Mercer	C. B. VanArsdall	Harrodsburg	January 13.
Metcalfe	H. R. VanZant	Edmonton	January 6.
Monroe	R. F. Duncan	Tompkinsville	January 13.
Montgomery	J. F. Jones	Mt. Sterling	January 13.
Morgan	W. H. Wheeler	West Liberty	January 12.
Muhlenburg	S. T. Taylor	Central City	January 28.
Nelson	Hugh D. Rodman	Bardstown	January 7.
Nicholas	G. B. Spencer	Carlisle	January 9.
Ohio	Oscar Allen	Cromwell	January 7.
Oldham	E. D. Burnett	Anchorage	January 1.
Owen	J. H. Crisman	Owenton	January 1.
Owsley	A. M. Glass	Booneville	January 7.
Pendleton	W. A. McKenney	Falmouth	January 14.
Perry	M. E. Combs	Hazard	January 12.
Pike	W. J. Walters	Pikeville	January 5.
Powell	I. W. Johnson	Stanton	January 5.
Pulaski	Carl Norfleet	Somerset	January 8.
Robertson	W. S. Chandler	Mt. Olivet	January 19.
Rockcastle	Lee Chestnut	Mt. Vernon	January 8.
Rowan	C. C. Nickell	Morehead	January 28.
Russell	Jas. B. Tartar	Ono	January 24.
Scott	E. C. Barlow	Georgetown	January 22.
Shelby	W. E. Allen	Shelbyville	January 15.

COUNTY	SECRETARY	RESIDENCE	DATE
Simpson	N. C. Witt	Franklin	January 6.
Spencer	E. C. Wood	Wakefield	January 19.
Taylor	J. L. Atkinson	Campbellsville	January 8.
Todd	L. P. Trabue	Elkton	January 7.
Trigg	J. L. Hopson	Cadiz	
Trimble	F. W. Hancock	Bedford	January 5.
Union	C. B. Graves	Morganfield	January 7.
Warren	B. S. Rutherford	Bowling Green	January 14.
Washington	J. H. Hopper	Springfield	January 21.
Wayne	J. F. Young	Monticello	January 7.
Webster	Roy Orsburn	Sebree	January 30.
Whitley	C. A. Moss	Williamsburg	January 1.
Wolfe	D. B. Cox	Campton	January 10.
Woodford	J. W. Crenshaw	Versailles	January 6.



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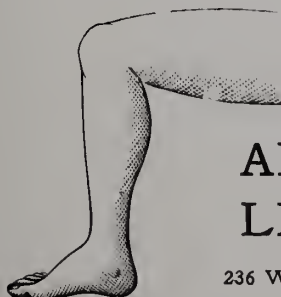
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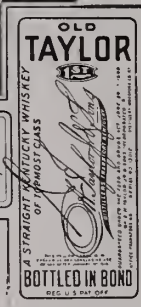
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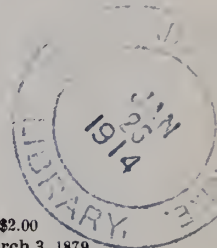
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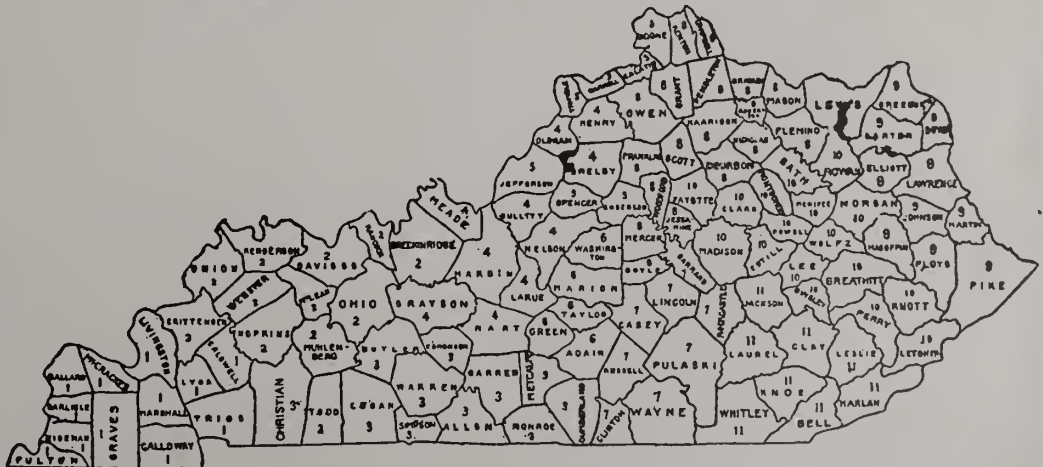
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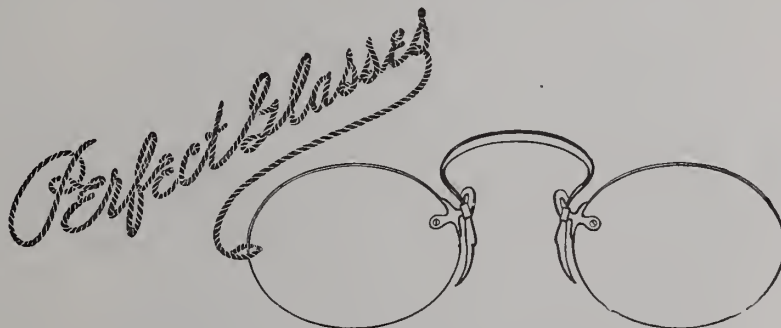
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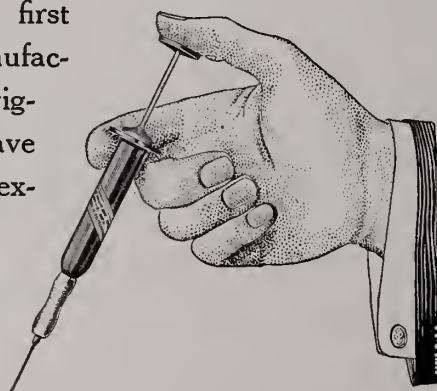
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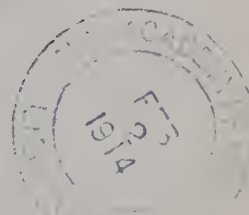
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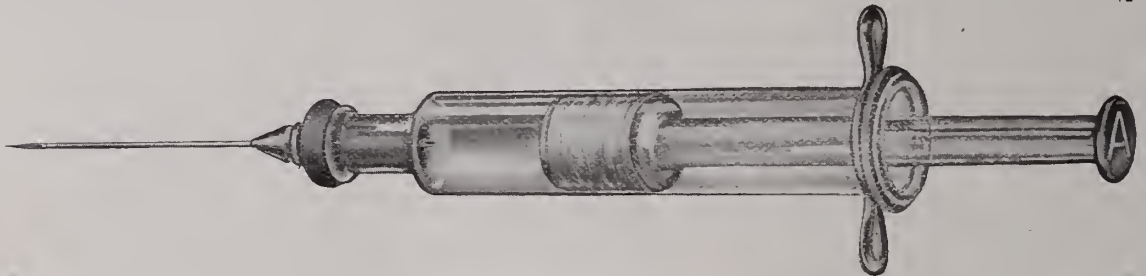
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	February 5.
Allen	H. M. Meredith	Scottsville	February 28.
Anderson	J. W. Gilbert	Lawrenceburg	February 2.
Ballard	W. A. Page	Barlow	February 10.
Barren	C. C. Turner	Lucas	February 18.
Bath	H. J. Dailey	Owingsville	February 9.
Bell	O. P. Nichols	Pineville	February 13.
Boone	M. A. Yelton	Burlington	February 18.
Bourbon	C. G. Laugherty	Paris	February 19.
Boyd	C. K. Kercheval	Ashland	February 2, 23.
Boyle	W. H. Smith	Danville	February 10.
Breathitt	A. M. Arnold	Jackson	February 4.
Breckinridge	J. E. Kincheloe	Hardinsburg	February 12.
Bullitt	S. H. Ridgway	Shepherdsville	February 9.
Butler	J. H. Austin	Morgantown	February 4.
Caldwell	R. W. Ogilvie	Princeton	February 10.
Calloway	W. H. Graves	Murray	February 11.
Campbell-Kenton	F. A. Stine	Newport	February 19.
Carlisle	T. J. Marshall	Bardwell	February 3.
Carroll	F. M. Gaines	Carrollton	February 10.
Carter	J. W. Stovall	Grayson	February 10.
Casey	L. F. Hammonds	Dunnville	February 26.
Christian	W. S. Sandbach	Caskey	February 17.
Clark	H. R. Henry	Winchester	February 17.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	February 4.
Cumberland	Oscar Keen	Burkesville	February 11.
Daviess	J. J. Rodman	Owensboro	February 17.
Elliott			
Estill	G. A. Embry	Irvine	February 11.
Fayette	L. C. Redmon	Lexington	February 10.
Fleming	J. B. O'Bannon	Mt. Carmel	February 18.
Franklin	U. V. Williams	Frankfort	February 2.
Fulton	C. B. Curlin	Hickman	
Gallatin	J. M. Stallard	Sparta	February 19.
Garrard	J. B. Kinnaird	Lancaster	February 19.
Grant	C. M. Eckler	Williamstown	February 18.
Graves	H. H. Hunt	Mayfield	February 4.
Grayson	C. L. Sherman	Millwood	February 4.
Greenup	J. I. Rathburn	Russell	February 18.
Hardin	E. J. Strickler	Elizabethtown	February 12.
Harlan	Arthur Jenkins	Harlan	February 3.
Harrison	W. B. Moore	Cynthiana	February 2.
Hart	C. H. Moore	Canmer	February 3.
Henderson	B. J. Neary	Henderson	February 3, 23.
Henry	Owen Carroll	New Castle	February 16.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	February 5.
Jackson	G. C. Goodman	Welchburg	February 4.
Jefferson	A. C. L. Percefull	Louisville	Every Monday Evening
Jessamine	J. A. VanArsdall	Nicholasville	February 19.
Johnson	J. H. Holbrook	Paintsville	February 7.
Knott	Owen Pigman	Mallie	February 28.
Knox	C. L. Heath	Lindsay	February 23.
Larue	W. E. Rodman	Hodgenville	February 19.
Laurel	Oscar D. Brock	London	February 18.
Lee	A. B. Hoskins	Beattyville	February 14.
Leslie	R. L. Collins	Hyden	February 25.
Lewis	A. C. Henthorn	Vanceburg	February 16.
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Logan	Walter Byrne, Jr.	Russellville	February 10.
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McCracken	Delia Caldwell	Paducah	February 11, 25.
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Madison	Murison Dunn	Richmond	February 12.
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Russell	Jas. B. Tartar	Ono	February 28.
Scott	E. C. Barlow	Georgetown	March 5.
Shelby	W. F. Allen	Shelbyville	February 19.

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Simpson	N. C. Witt	Franklin	February 3.
Spencer	E. C. Wood	Wakefield	February 16.
Taylor	J. L. Atkinson	Campbellsville	February 5.
Todd	L. P. Trabue	Elkton	February 4.
Trigg	J. L. Hopson	Cadiz	
Trimble	F. W. Hancock	Bedford	February 2.
Union	C. B. Graves	Morganfield	February 4.
Warren	B. S. Rutherford	Bowling Green	February 11.
Washington	J. H. Hopper	Springfield	February 18.
Wayne	J. F. Young	Monticello	February 4.
Webster	Roy Orsburn	Sebree	February 27.
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Woodford	J. W. Crenshaw	Versailles	February 3.



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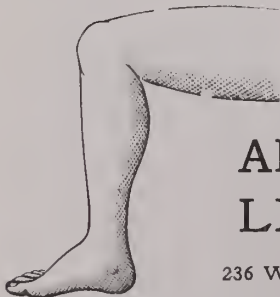
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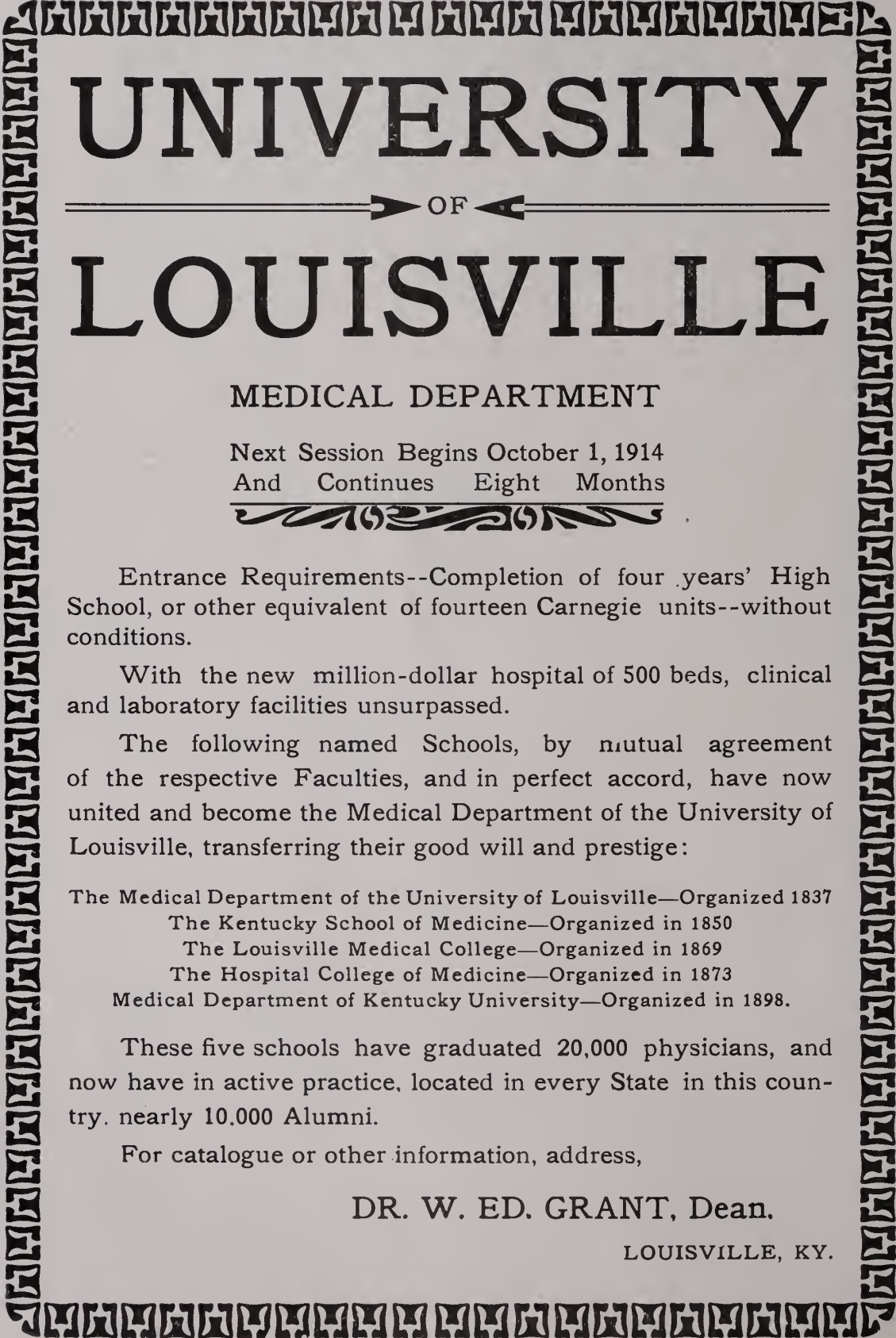
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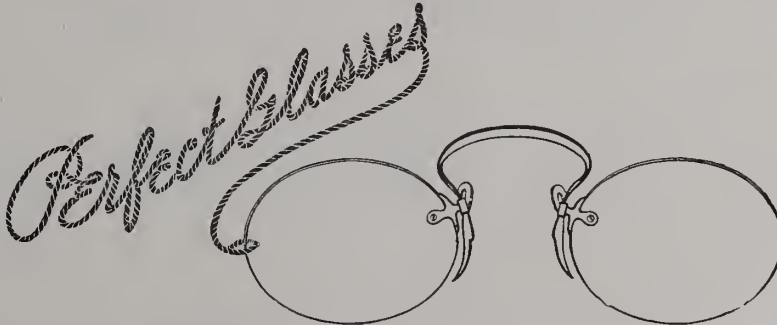
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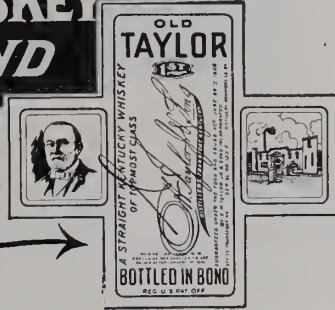
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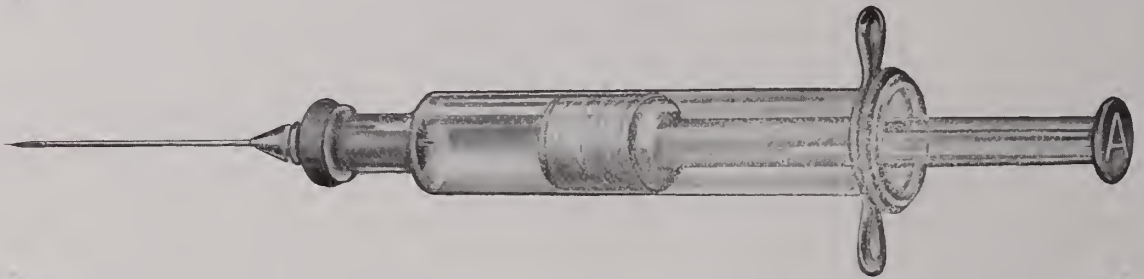
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Bell	O. P. Nuchols	Pineville	March 13.
Boone	O. E. Senour	Union	March 18.
Bourbon	C. G. Laugherty	Paris	March 19.
Boyd	C. K. Kercheval	Ashland	March 2, 23.
Boyle	W. H. Smith	Danville	March 10.
Breathitt	A. M. Arnold	Jackson	March 4.
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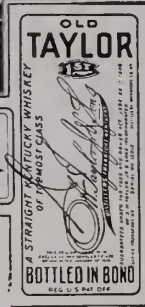
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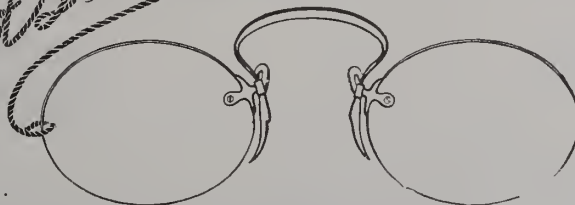
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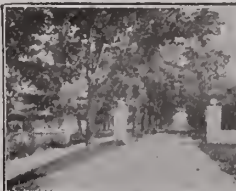
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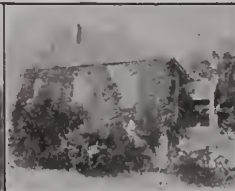
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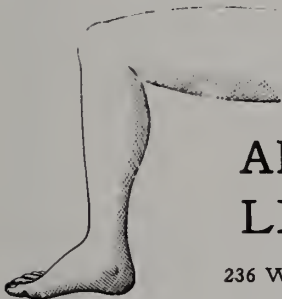
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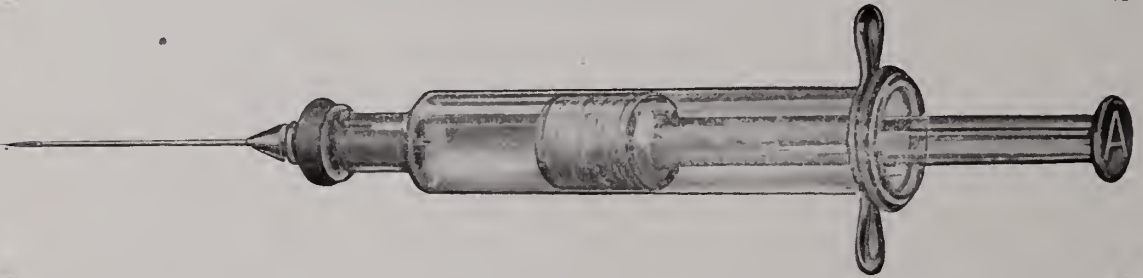
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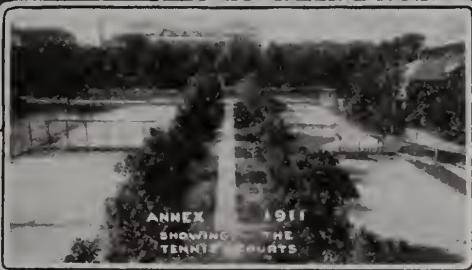
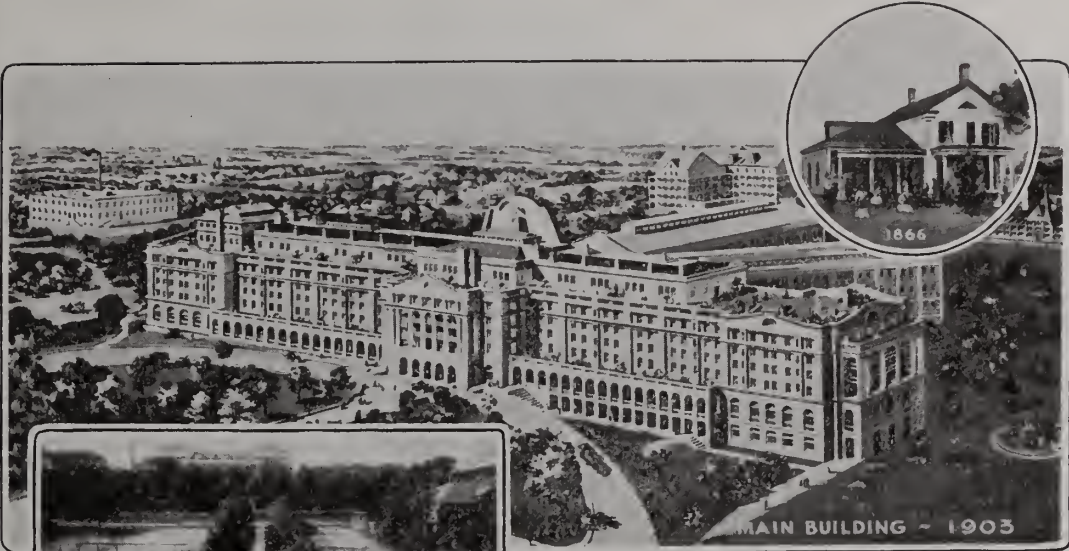
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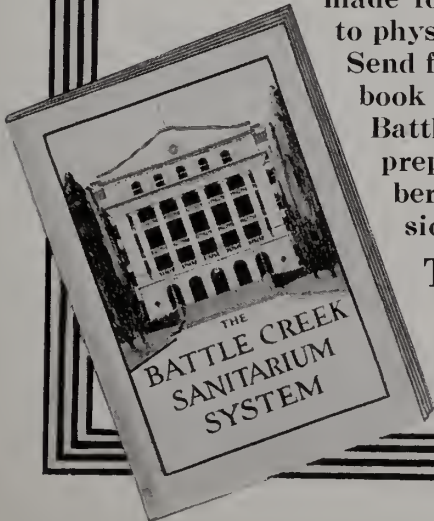
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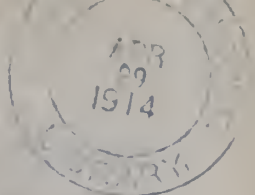


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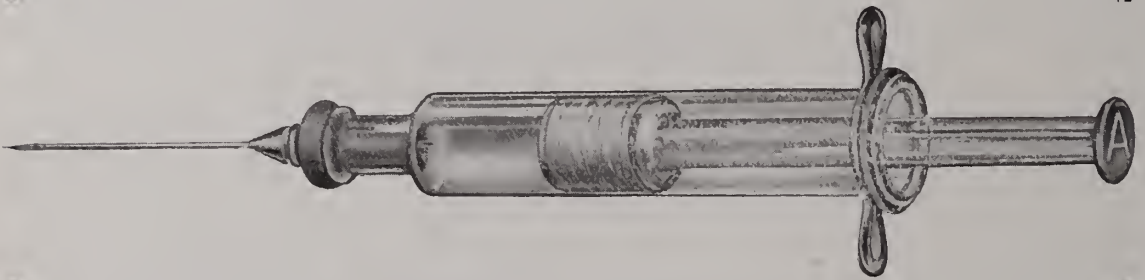
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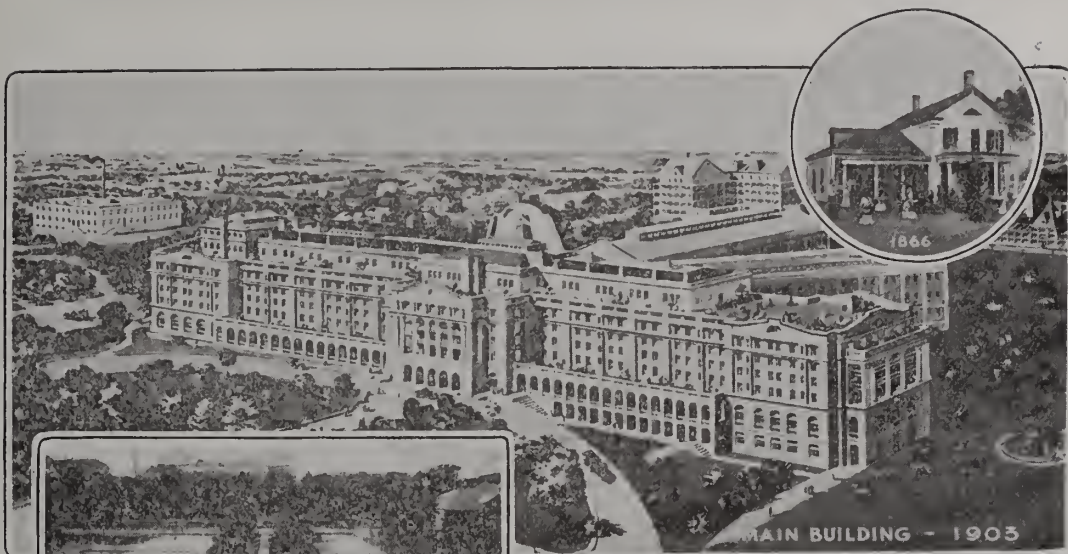
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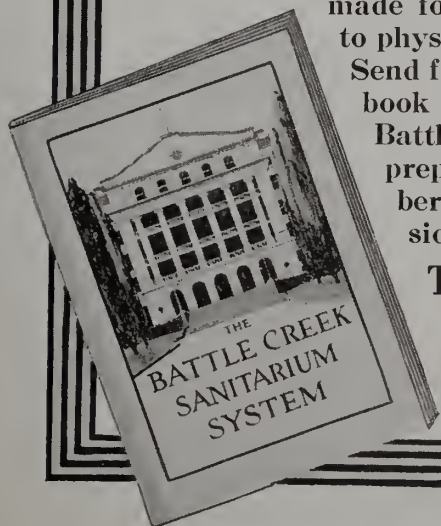
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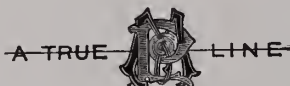
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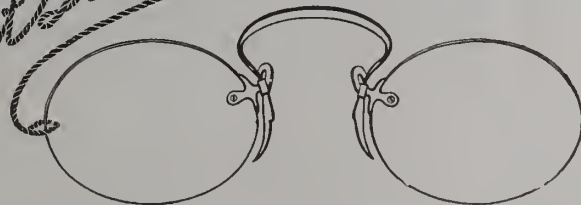
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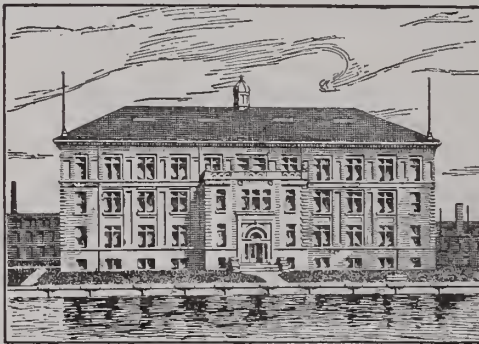
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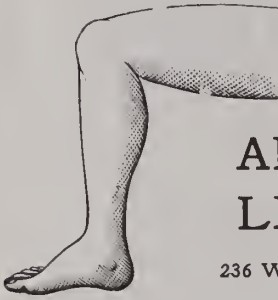
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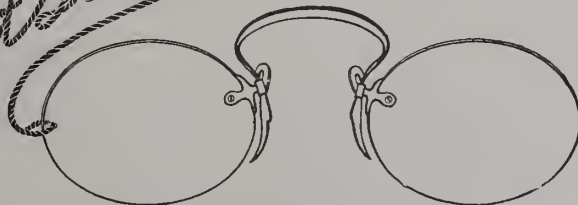
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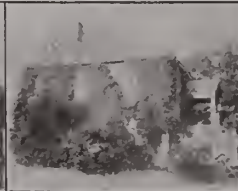
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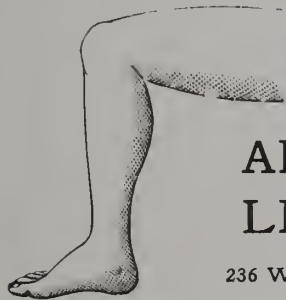
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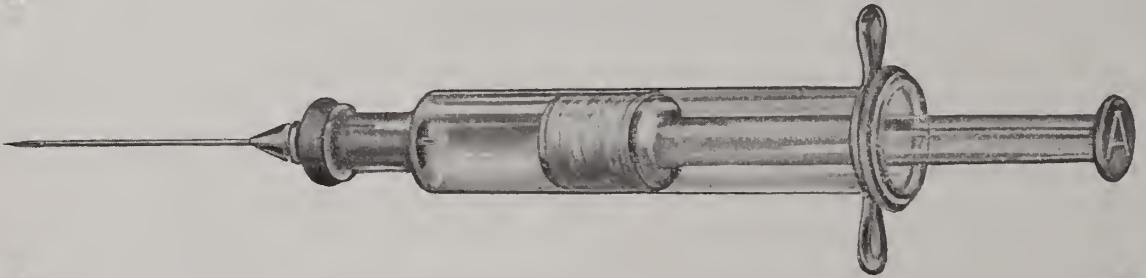
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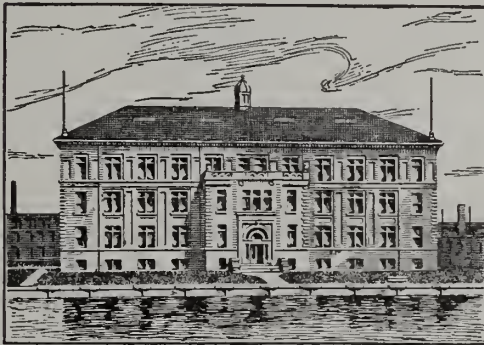
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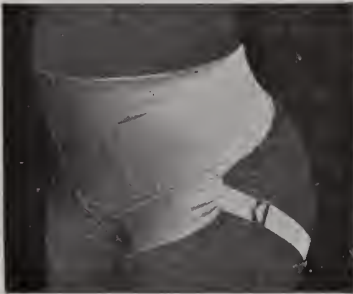
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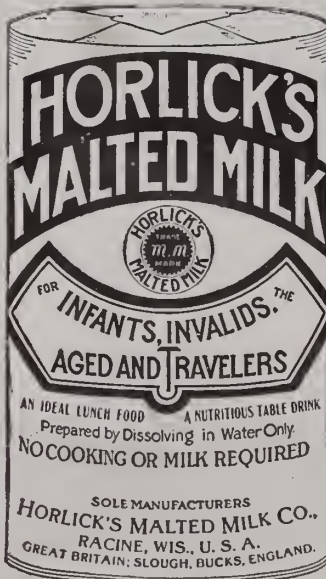
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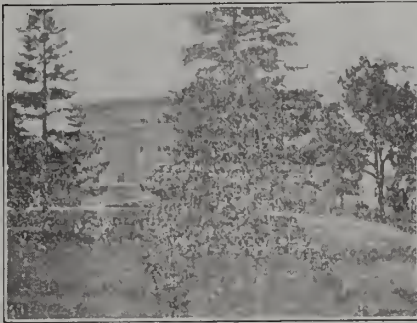
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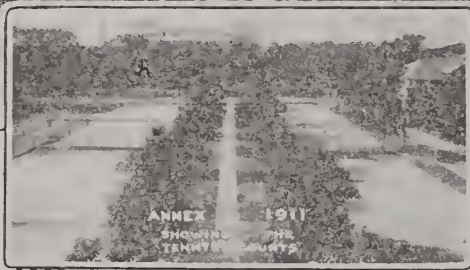
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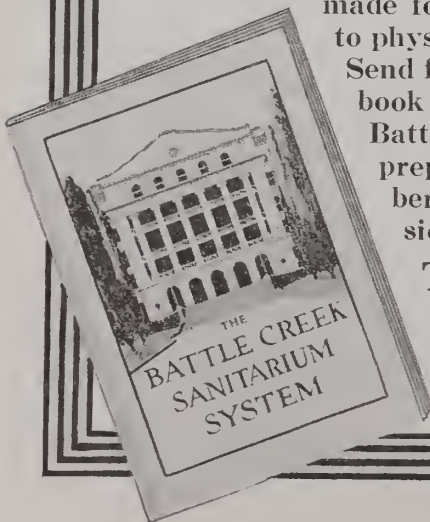
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Carter	G. B. O'Rourke	Grayson	June 9.
Casey	Oscar Durham	Dunnville	June 25.
Christian	W. S. Sandbach	Caskey	June 16.
Clark	H. R. Henry	Winchester	June 16.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	June 3.
Cumberland	Oscar Keen	Burkesville	June 10.
Daviess	J. J. Rodman	Owensboro	June 16.
Elliott			
Estill	G. A. Embrv	Irvine	June 10.
Fayette	L. C. Redmon	Lexington	June 9.
Fleming	J. B. O'Bannon	Mt. Carmel	June 17.
Floyd			
Franklin	U. V. Williams	Frankfort	June 1.
Fulton	C. B. Carlin	Hickman	
Gallatin	J. M. Stallard	Sparta	June 18.
Garrard	J. B. Kinnaird	Lancaster	June 18.
Grant	C. M. Ecker	Williamstown	June 17.
Graves	H. H. Hunt	Mayfield	June 3.
Grayson	C. L. Sherman	Millwood	June 25.
Green			
Greenup	A. P. Hunt	Fullerton	June 4.
Hancock			
Hardin	J. W. O'Connor	Elizabethtown	June 11.
Harlan	W. M. Martin	Harlan	June 1.
Harrison	W. B. Moore	Cynthiana	June 1.
Hart	C. H. Moore	Canmer	June 2.
Henderson	R. J. Neary	Henderson	June 8, 22.
Henry	Owen Carroll	New Castle	June 22.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	June 4.
Jackson	G. C. Goodman	Welchburg	June 3.
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Johnson	J. H. Halbrook	Paintsville	June 6.
Knott	Owen Pigman	Mallie	June 27.
Knox	C. L. Heath	Lindsay	June 22.
Larue	W. E. Rodman	Hodgenville	June 18.
Laurel	Oscar D. Brock	London	June 17.
Lawrence	F. D. Marcus	Louisa	
Lee	A. B. Hoskins	Beattville	June 13.
Leslie	R. L. Collins	Hyden	June 24.
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Lewis	A. C. Henthorn	Vanceburg	June 15.
Lincoln	D. B. Southard	Stanford	June 19.
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Logan	Walter Byrne, Jr.	Russellville	June 9.
Lyon	J. H. Hussey	Eddsville	June 16.
McCracken	Dale Caldwell	Paducah	June 10, 24.
McLean	W. H. Moore	Sacramento	July 14.
Madison	T. W. Souder	Richmond	June 11.
Magoffin	M. C. Kesh	Salversville	June 6.
Marion	R. C. McChard	Lebanon	June 16.
Marshall	L. L. Washburn	Benton	June 10.
Mason	J. H. Samuel	Maysville	June 1.
Meade	E. C. Hartman	Brandenburg	June 25.
Menifee	T. M. Kesh	Frenchburg	
Mercer	C. P. VanArsdall	Harrodsburg	June 9.
Metcalfe	H. R. VanZant	Edmonton	June 2.
Monroe	R. E. Duncan	Tompkinsville	June 18.
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Muhlenburg	S. T. Taylor	Central City	June 24.
Nelson	Hugh D. Rodman	Bardstown	June 3.
Nicholas	G. B. Spencer	Carlisle	June 12.
Ohio	Oscar Allen	Cromwell	June 3.
Oldham	E. D. Burnett	Anchorage	June 4.
Owen	J. H. Crisman	Owenton	June 4.
Owsley	A. M. Glass	Booneville	June 3.
Pendleton	W. A. McKenney	Falmouth	June 10.
Perry	M. E. Combs	Hazard	June 8.
Pike	W. J. Walters	Pikeville	June 1.
Powell	I. W. Johnson	Stanton	June 1.

COUNTY	SECRETARY	RESIDENCE	DATE
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Robertson	W. S. Chandler	Mt. Olivet	June 15.
Rockcastle	Lee Chestnut	Mt. Vernon	June 11.
Rowan	C. C. Nickell	Morehead	June 24.
Russell	J. B. Scholl	Jabez	June 6.
Scott	E. C. Barlow	Georgetown	July 2.
Shelby	W. E. Allen	Shelbyville, R. F. D. No. 1	June 18.
Simpson	N. C. Witt	Franklin	June 2.
Spencer	E. C. Wood	Wakefield	June 15.
Taylor	J. L. Atkinson	Campbellsville	June 4.
Todd	L. P. Trabue	Elkton	June 3.
Trigg	J. L. Hopson	Cadiz	
Trimble	F. W. Hancock	Bedford	June 1.
Union	S. L. Henry	Morganfield	June 3.
Warren	B. S. Rutherford	Bowling Green	June 10.
Washington	J. H. Hopper	Springfield	June 17.
Wayne	J. F. Young	Monticello	June 3.
Webster	Roy Orsburn	Sebree	June 26.
Whitley	C. A. Moss	Williamsburg	July 2.
Wolfe	D. B. Cox	Campton	June 1.
Woodford	J. W. Crenshaw	Versailles	June 30.



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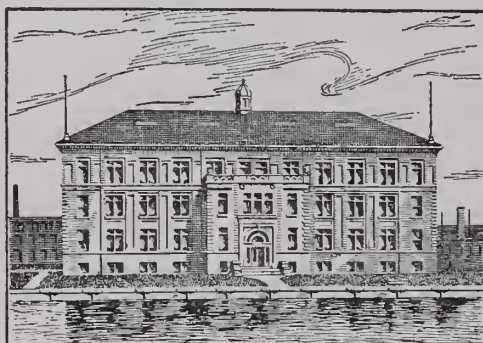
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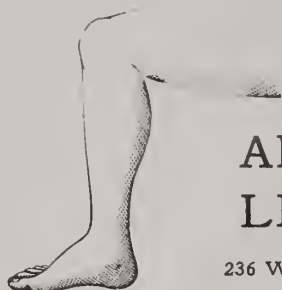
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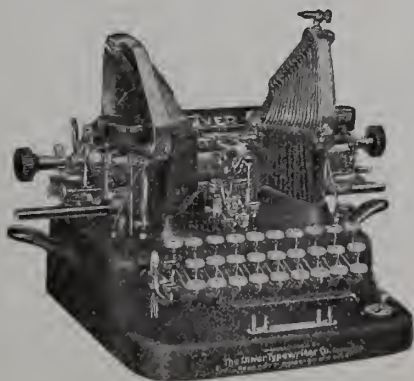
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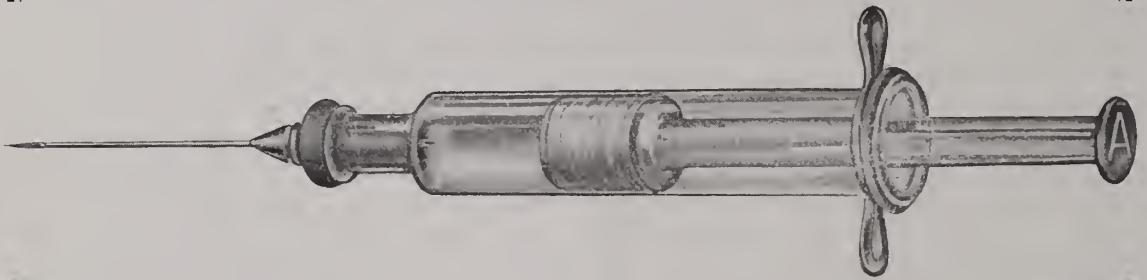
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	July 9.
Allen	H. M. Meredith	Scottsville	July 25.
Anderson	J. W. Gilbert	Lawrenceburg	July 6.
Ballard	J. S. Johnson	Barlow	September 8.
Barren	C. C. Turner	Lucas	July 15.
Bath	H. J. Dailey	Owingsville	July 13.
Bell	O. P. Nuchols	Pineville	July 10.
Boone	O. E. Senour	Union	July 15.
Bourbon	C. G. Laugherty	Paris	July 16.
Boyd	C. K. Kercheval	Ashland	July 6 and 27.
Boyle	W. H. Smith	Danville	July 14.
Bracken	F. E. Corlis	Brooksville	
Breathitt	Earl Moorman	Jackson	July 1.
Breckinridge	J. E. Kincheleo	Hardinsburg	September 10.
Bullitt	Roscoe I. Kerr	Belmont	July 13.
Butler	J. H. Austin	Morgantown	July 1.
Caldwell	W. L. Cash	Princeton	July 14.
Calloway	W. H. Graves	Murray	July 8.
Campbell-Kenton	F. A. Stine	Newport	July 16.
Carlisle	T. J. Marshall	Bardwell	July 7.
Carroll	E. B. Driskell	Worthville	July 14.
Carter	G. B. O'Roark	Grayson	July 14.
Casey	J. M. Haney	Middleburg	July 23.
Christian	W. S. Sandbach	Caskey	July 21.
Clark	H. R. Henry	Winchester	July 21.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	July 1.
Cumberland	Oscar Keen	Burkesville	July 8.
Daviess	J. J. Rodman	Owensboro	September 15.
Elliot			July 6.
Estill	G. A. Embry	Irvine	July 8.
Fayette	L. C. Redmon	Lexington	July 14.
Fleming	J. B. O'Bannon	Mt. Carmel	July 15.
Floyd			
Franklin	U. V. Williams	Frankfort	July 6.
Fulton	C. B. Curlin	Hickman	
Gallatin	J. M. Stallard	Sparta	July 16.
Garrard	J. B. Kinnaid	Lancaster	July 16.
Grant	C. M. Eckler	Williamstown	July 15.
Graves	H. H. Hunt	Mayfield	July 1.
Grayson	C. L. Sherman	Millwood	July 30.
Green			
Greenup	A. P. Hunt	Fullerton	July 2.
Hancock			
Hardin	R. T. Lavman	Cecelia	July 9.
Harlan	W. M. Martin	Harlan	July 6.
Harrison	W. B. Moore	Cynthiana	July 6.
Hart	C. H. Moore	Canmer	July 7.
Henderson	B. J. Neary	Henderson	July 13 and 27.
Henry	Owen Carroll	New Castle	July 27.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	July 2.
Jackson	G. C. Goodman	Welchburg	July 1.
Jefferson	E. L. Henderson	Louisville	July 6, 13, 20, 27.
Jessamine	J. A. VanArsdall	Nicholasville	July 23.
Johnson	J. H. Holbrook	Paintsville	July 4.
Knott	Owen Pigman	Mallie	July 25.
Knox	C. L. Heath	Lindsav	July 27.
Larue	W. E. Rodman	Hodgenville	September 17.
Laurel	Oscar D. Brock	London	July 15.
Lawrence	F. D. Marcum	Louisa	
Lee	A. B. Hoskins	Beattville	July 11.
Leslie	R. L. Collins	Hyden	July 22.
Letcher			
Lewis	A. C. Henthorn	Vanceburg	July 20.
Lincoln	D. B. Southard	Stanford	
Livingston	Edward Davenport	Hampton	July 17.
Logan	Walter Byrne, Jr.	Russellville	July 14.
Lyon	J. H. Hussey	Eddyville	July 21.
McCracken	Delia Caldwell	Paducah	July 8 and 22.
McLean	W. H. Moore	Sacramento	July 14.
Madison	J. W. Scudder	Richmond	July 9.
Magoffin	M. C. Kash	Salyersville	July 4.
Marion	R. C. McChord	Lebanon	August 18.
Marshall	L. L. Washburn	Benton	July 8.
Mason	J. H. Samuel	Maysville	July 6.
Meade	E. C. Hartman	Brandenburg	July 23.
Menifee	J. M. Kash	Frenchburg	
Mercer	C. B. VanArsdall	Harrodsburg	July 14.
Metcalf	H. R. VanZant	Edmonton	August 4.
Monroe	R. F. Duncan	Tompkinsville	July 16.
Montgomery	J. F. Jones	Mt. Sterling	July 11.
Morgan	W. H. Wheeler	West Liberty	July 13.
Muhlenburg	S. T. Taylor	Central City	July 22.
Nelson	Hugh D. Rodman	Bardstown	September 2.
Nicholas	G. B. Spencer	Carlisle	July 10.
Ohio	Oscar Allen	Cromwell	July 1.
Oldham	E. D. Burnett	Anchorage	July 2.
Owen	J. H. Crisman	Owenton	July 2.
Owsley	A. M. Glass	Booneville	July 1.
Pendleton	W. A. McKenney	Falmouth	July 8.
Perry	M. E. Combs	Hazard	July 13.
Pike	W. J. Walters	Pikeville	July 6.
Powell	I. W. Johnson	Stanton	July 6.

COUNTY	SECRETARY	RESIDENCE	DATE
Pulaski	Carl Norfleet	Somerset	July 9.
Robertson	W. S. Chandler	Mt. Olivet	July 20.
Rockcastle	Lee Chestnut	Mt. Vernon	August 13.
Rowan	C. C. Nickell	Morehead	July 22.
Russell	J. B. Scholl	Jabez	July 4.
Scott	E. C. Barlow	Georgetown	July 2.
Shelby	W. E. Allen	Shelbyville, R. F. D. No. 1	July 16.
Simpson	N. C. Witt	Franklin	July 7.
Spencer	E. C. Wood	Wakefield	July 20.
Taylor	J. L. Atkinson	Campbellsville	July 9.
Todd	L. P. Trabue	Elkton	July 1.
Trigg	J. L. Hopson	Cadiz	July 6.
Trimble	F. W. Hancock	Bedford	July 6.
Union	S. L. Henry	Morganfield	July 1.
Warren	B. S. Rutherford	Bowling Green	July 8.
Washington	J. H. Hopper	Springfield	July 15.
Wayne	J. F. Young	Monticello	July 14 and 21.
Webster	Roy Orsburn	Sebree	July 31.
Whitley	C. A. Moss	Williamsburg	July 2.
Wolfe	D. B. Cox	Campton	July 6.
Woodford	J. W. Crenshaw	Versailles	July 7.



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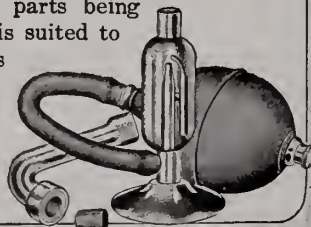
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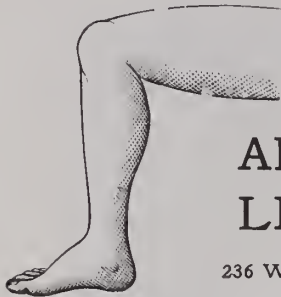
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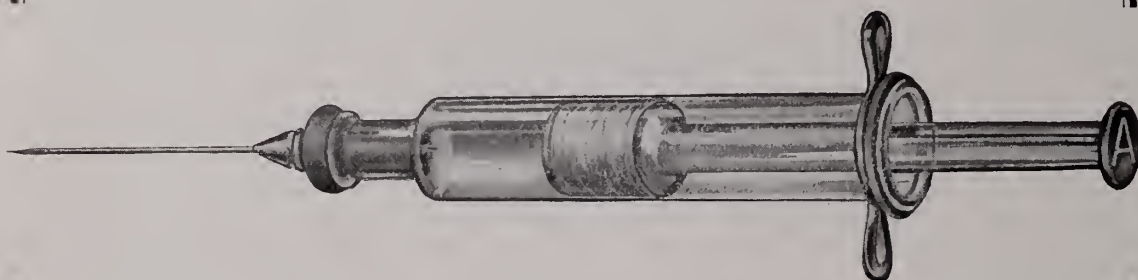
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COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	August 6.
Allen	H. M. Meredith	Scottsville	August 22.
Anderson	J. W. Gilbert	Lawrenceburg	August 3.
Ballard	J. S. Johnson	Barlow	September 8.
Barren	C. C. Turner	Lucas	August 19.
Bath	H. J. Dailey	Owingsville	August 10.
Bell	O. P. Nuchols	Pineville	August 14.
Boone	O. E. Senour	Union	August 19.
Bourbon	C. G. Laugherty	Paris	August 20.
Boyd	C. K. Kercheval	Ashland	August 3, 24.
Boyle	W. H. Smith	Danville	August 11.
Breathitt	Earl Moorman	Jackson	August 5.
Breckinridge	J. E. Kincheloe	Hardinsburg	September 10.
Bullitt	Roscoe I. Kerr	Belmont	August 10.
Butler	J. H. Austin	Morgantown	August 5.
Caldwell	W. L. Cash	Princeton	August 11.
Calloway	W. H. Graves	Murray	August 12.
Campbell-Kenton	F. A. Stine	Newport	August 20.
Carlisle	T. J. Marshall	Bardwell	August 4.
Carroll	E. B. Driskell	Worthville	October 13.
Carter	G. B. O'Roark	Grayson	August 11.
Casey	J. M. Haney	Middleburg	August 27.
Christian	W. S. Sandbach	Caskey	August 18.
Clark	H. R. Henry	Winchester	August 18.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	August 5.
Cumberland	Oscar Keen	Burkesville	August 12.
Daviess	J. J. Rodman	Owensboro	September 15.
Estill	G. A. Embry	Irvine	August 12.
Fayette	L. C. Redmon	Lexington	August 11.
Fleming	J. B. O'Bannon	Mt. Carmel	August 19.
Franklin	U. V. Williams	Frankfort	August 3.
Fulton	Seldon Cohn	Fulton	August 15.
Gallatin	J. M. Stallard	Sparta	August 20.
Garrard	J. B. Kinnaird	Lancaster	August 20.
Grant	C. M. Eckler	Williamstown	August 19.
Graves	H. H. Hunt	Mayfield	August 5.
Grayson	C. L. Sherman	Millwood	August 27.
Greenup	A. P. Hunt	Fullerton	August 6.
Hardin	R. T. Layman	Cecelia	August 20.
Harlan	W. M. Martin	Harlan	August 3.
Harrison	W. B. Moore	Cynthiana	August 3.
Hart	C. H. Moore	Canmer	August 4.
Henderson	B. J. Neary	Henderson	August 10, 24.
Henry	Owen Carroll	New Castle	August 24.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	August 6.
Jackson	G. O. Goodman	Welchburg	August 5.
Jefferson	E. L. Henderson	Louisville	Every Monday Evening.
Jessamine	J. A. VanArsdall	Nicholasville	August 20.
Johnson	J. H. Holbrook	Paintsville	August 1.
Knott	Owen Pigman	Mallie	August 22.
Knox	C. L. Heath	Lindsav	August 24.
Larue	W. E. Rodman	Hodgenville	September 17.
Laurel	Oscar D. Brock	London	August 19.
Lee	A. B. Hoskins	Beattyville	August 8.
Leslie	R. L. Collins	Hyden	August 26.
Lewis	A. C. Henthorn	Vanceburg	August 17.
Lincoln	D. B. Southard	Stanford	August 21.
Logan	Walter Byrne, Jr.	Russellville	August 11.
Lyon	J. H. Hussey	Eddyville	August 18.
McCracken	Delia Caldwell	Paducah	August 12, 26.
McLean	W. H. Moore	Sacramento	September 8.
Madison	J. W. Scudder	Richmond	August 13.
Magoffin	M. C. Kash	Salyersville	August 1.
Marion	R. C. McChord	Lebanon	August 18.
Marshall	L. L. Washburn	Benton	August 12.
Mason	J. H. Samuel	Maysville	August 3.
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Mercer	C. B. VanArsdall	Harrodsburg	August 11.
Metcalfe	H. R. VanZant	Edmonton	August 4.
Monroe	R. F. Duncan	Tompkinsville	August 20.
Montgomery	J. F. Jones	Mt. Sterling	August 11.
Morgan	W. H. Wheeler	West Liberty	August 10.
Muhlenburg	S. T. Taylor	Central City	August 26.
Nelson	Hugh D. Rodman	Bardstown	September 2.
Nicholas	G. B. Spencer	Carlisle	August 14.
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Oldham	E. D. Burnett	Anchorage	August 6.
Owen	J. H. Crisman	Owenton	August 6.
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Russell..	J. B. Scholl..	Jabez	August 1.
Scott..	E. C. Barlow..	Georgetown	August 6.
Shelby..	W. E. Allen..	Shelbyville, R. F. D. No. 1	August 20.
Simpson..	N. C. Witt..	Franklin	August 4.
Spencer..	E. C. Wood..	Wakefield	August 17.
Taylor..	J. L. Atkinson..	Campbellsville	August 6.
Todd..	L. P. Trabue..	Elkton	August 5.
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Union..	S. L. Henry..	Morganfield	August 5.
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Washington..	J. H. Hopper..	Springfield	August 19.
Wayne..	J. F. Young..	Monticello	August 11, 18.
Webster..	Roy Orsburn..	Sebree	August 28.
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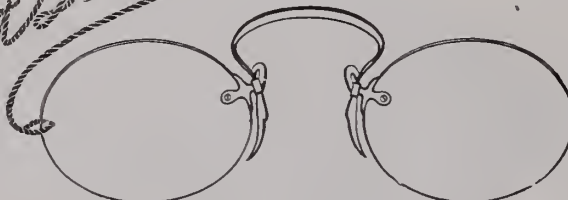
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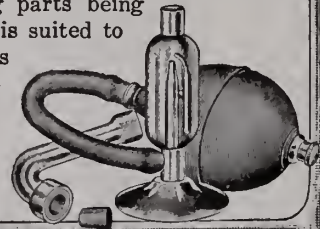
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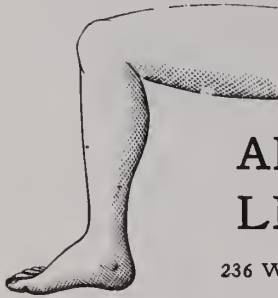
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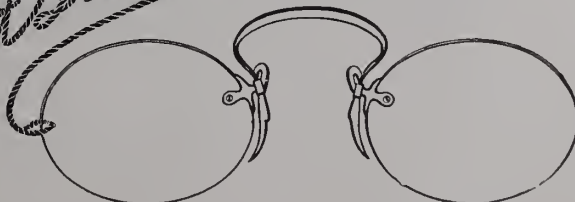
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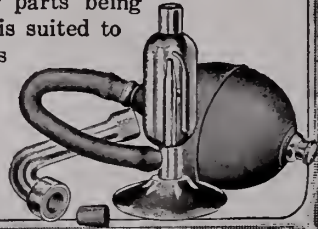
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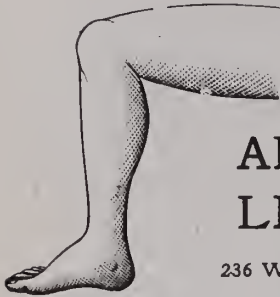
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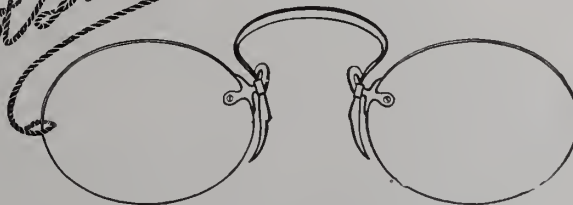
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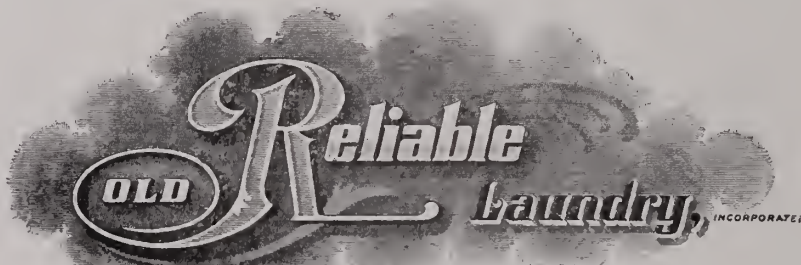
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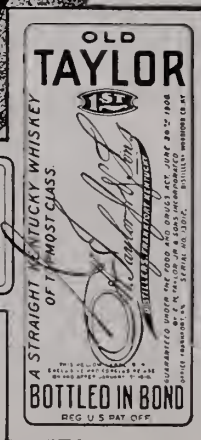
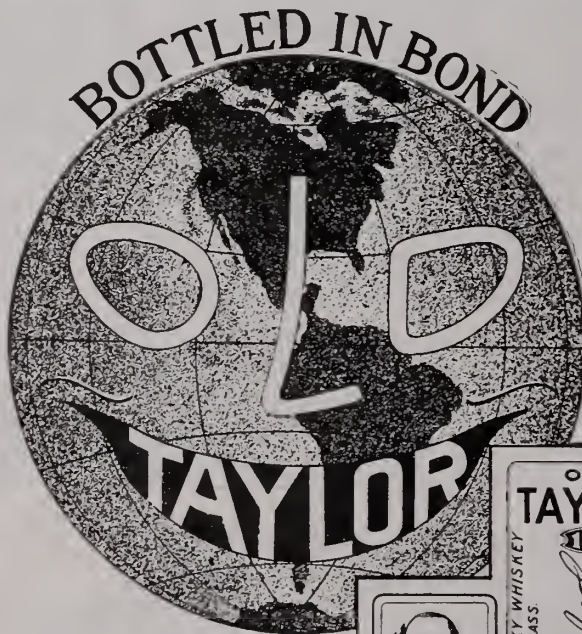
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No. 18

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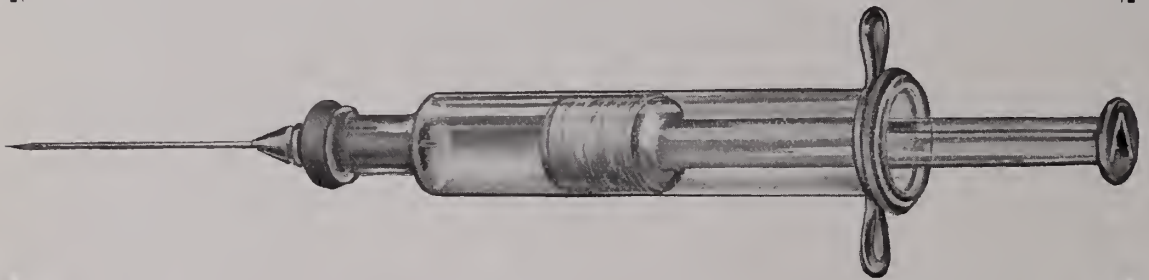
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	September 10.
Allen	H. M. Meredith	Scottsville	September 26.
Anderson	J. W. Gilbert	Lawrenceburg	September 7.
Ballard	J. S. Johnson	Barlow	September 8.
Barren	C. C. Turner	Lucas	September 16.
Bath	H. J. Dailey	Owingsville	September 14.
Bell	O. P. Nuchols	Pineville	September 11.
Boone	O. E. Senour	Union	September 16.
Bourbon	C. G. Laugherty	Paris	September 17.
Boyd	C. K. Kercheval	Ashland	September 7, 28.
Boyle	W. H. Smith	Danville	September 8.
Breathitt	Earl Moorman	Jackson	September 2.
Breckinridge	J. E. Kincheloe	Hardinsburg	September 10.
Bullitt	Roscoe I. Kerr	Belmont	September 14.
Butler	J. H. Austin	Morgantown	September 2.
Caldwell	W. L. Cash	Princeton	September 8.
Calloway	W. H. Graves	Murray	September 9.
Campbell-Kenton	F. A. Stine	Newport	September 17.
Carlisle	T. J. Marshall	Bardwell	September 1.
Carroll	E. B. Driskell	Worthville	October 13.
Carter	G. B. O'Roark	Grayson	September 8.
Casey	J. M. Haney	Middleburg	September 24.
Christian	W. S. Sandbach	Caskey	September 15.
Clark	H. R. Henry	Winchester	September 15.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	September 2.
Cumberland	Oscar Keen	Burkesville	September 9.
Daviess	J. J. Rodman	Owensboro	September 15.
Estill	G. A. Embry	Irvine	September 9.
Fayette	L. C. Redmon	Lexington	September 15.
Fleming	J. B. O'Bannon	Mt. Carmel	September 16.
Franklin	U. V. Williams	Frankfort	September 7.
Fulton	Seldon Cohn	Fulton	September 15.
Gallatin	J. M. Stallard	Sparta	September 17.
Garrard	J. B. Kinnaird	Lancaster	September 17.
Grant	C. M. Eckler	Williamstown	September 16.
Graves	H. H. Hunt	Mayfield	September 2.
Grayson	C. L. Sherman	Millwood	September 24.
Greenup	A. P. Hunt	Fullerton	September 3.
Hardin	R. T. Layman	Cecelia	September 10.
Harlan	W. M. Martin	Harlan	September 7.
Harrison	W. B. Moore	Cynthiana	September 7.
Hart	C. H. Moore	Canmer	September 1.
Henderson	B. J. Neary	Henderson	September 14, 28.
Henry	Owen Carroll	New Castle	September 28.
Hickman	E. B. McMorries	Clinton	
Hopkins	A. O. Sisk	Earlington	September 3.
Jackson	G. C. Goodman	Welchburg	September 2.
Jefferson	E. L. Henderson	Louisville	Every Monday Evening.
Jessamine	J. A. VanArsdall	Nicholasville	
Johnson	J. H. Holbrook	Paintsville	September 24.
Knott	Owen Pigman	Mallie	September 5.
Knox	C. L. Heath	Lindsay	September 26.
Larue	W. E. Rodman	Hodgenville	September 28.
Laurel	Oscar D. Brock	London	September 17.
Lee	A. B. Hoskins	Beattyville	September 16.
Leslie	R. L. Collins	Hyden	September 12.
Lewis	A. C. Henthorn	Vanceburg	September 23.
Lincoln	D. B. Southard	Stanford	September 21.
Logan	Walter Byrne, Jr.	Russellville	September 18.
Lyon	J. H. Hussey	Eddyville	September 8.
McCracken	Delia Caldwell	Paducah	September 15.
McLean	W. H. Moore	Sacramento	September 9, 23.
Madison	J. W. Scudder	Richmond	September 8.
Magoffin	M. C. Kash	Salysersville	September 10.
Marion	R. C. McChord	Lebanon	September 5.
Marshall	L. L. Washburn	Benton	October 20.
Mason	J. H. Samuel	Maysville	September 9.
Meade	E. C. Hartman	Brandenburg	September 7.
Mercer	C. B. VanArsdall	Harrodsburg	September 24.
Metcalfe	H. R. VanZant	Edmonton	September 8.
Monroe	R. F. Duncan	Tompkinsville	September 6.
Montgomery	J. E. Jones	Mt. Sterling	September 17.
Morgan	W. H. Wheeler	West Liberty	September 8.
Muhlenburg	S. T. Taylor	Central City	September 14.
Nelson	Hugh D. Rodman	Bardstown	September 23.
Nicholas	G. B. Spencer	Carlisle	September 2.
Ohio	Oscar Allen	Cromwell	September 11.
Oldham	E. D. Burnett	Anchorage	September 2.
Owen	J. H. Crisman	Owenton	September 3.
Owsley	A. M. Glass	Booneville	September 3.
Pendleton	W. A. McKenney	Falmouth	September 2.
Perry	M. E. Combs	Hazard	September 9.
Pike	W. J. Walters	Pikeville	September 14.
Powell	I. W. Johnson	Stanton	September 7.

COUNTY	SECRETARY	RESIDENCE	DATE
Pulaski..	Carl Norfleet..	Somerset	September 10.
Robertson..	W. S. Chandler..	Mt. Olivet	September 21.
Rockcastle..	Lee Chestnut..	Mt. Vernon	October 8.
Rowan..	C. C. Nickell..	Morehead	September 23.
Russell..	J. B. Scholl..	Jabez	September 5.
Scott..	E. C. Barlow..	Georgetown	September 3.
Shelby..	W. E. Allen..	Shelbyville, R. F. D. No. 1	September 17.
Simpson..	N. C. Witt..	Franklin	September 1.
Spencer..	E. C. Wood..	Wakefield	September 21.
Taylor..	J. L. Atkinson..	Campbellsville	September 10.
Todd..	L. P. Trabue..	Elkton	September 2.
Trigg..	J. L. Hopson..	Cadiz	September 7.
Trimble..	F. W. Hancock..	Bedford	September 2.
Union..	S. L. Henry..	Morganfield	September 9.
Warren..	B. S. Rutherford..	Bowling Green	September 16.
Washington..	J. H. Hopper..	Springfield	September 8, 15.
Wayne..	J. F. Young..	Monticello	September 25.
Webster..	Roy Orsburn..	Sebree	September 3.
Whitley..	C. A. Moss..	Williamsburg	September 7.
Wolfe..	D. B. Cox..	Campton	September 1.
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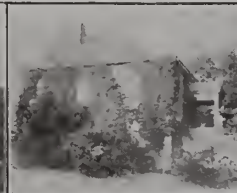
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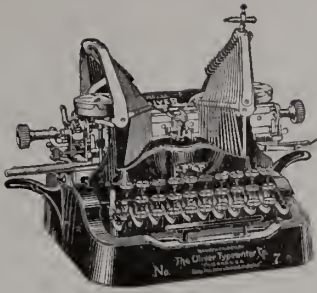
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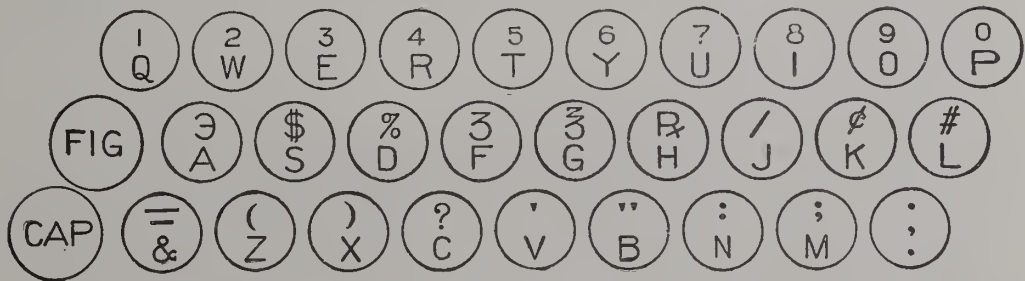
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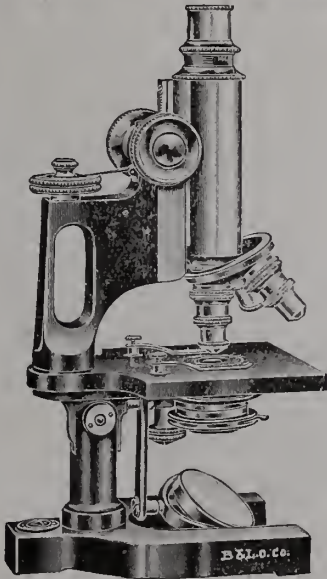
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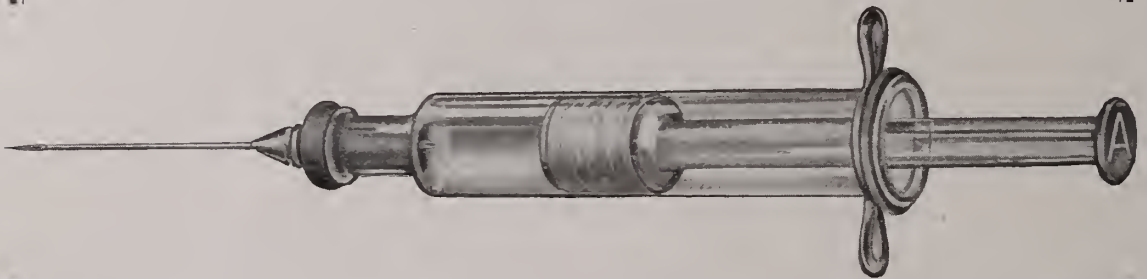
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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	October 8.
Allen	H. M. Meredith	Scottsville	October 24.
Anderson	J. W. Gilbert	Lawrenceburg	October 5.
Ballard	J. S. Johnson	Barlow	December 8.
Barren	C. C. Turner	Lucas	October 21.
Bath	H. J. Dailey	Owingsville	October 12.
Bell	O. P. Nichols	Pineville	October 9.
Boone	O. E. Senour	Union	October 21.
Bourbon	C. G. Laugherty	Paris	October 15.
Boyd	C. K. Kercheval	Ashland	October 5, 26.
Boyle	W. H. Smith	Danville	October 12.
Breathitt	Earl Moorman	Jackson	October 7.
Breckinridge	J. E. Kincheloe	Hardinsburg	December 10.
Bullitt	Roscoe I. Kerr	Belmont	October 12.
Butler	J. H. Austin	Morgantown	October 7.
Caldwell	W. L. Cash	Princeton	October 13.
Calloway	W. H. Graves	Murray	October 14.
Campbell-Kenton	F. A. Stine	Newport	October 15.
Carlisle	T. J. Marshall	Bardwell	October 6.
Carroll	E. B. Driskell	Worthville	October 13.
Carter	G. B. O'Roark	Grayson	October 13.
Casey	J. M. Haney	Middleburg	October 22.
Christian	W. S. Sandbach	Caskey	October 20.
Clark	H. R. Henry	Winchester	October 20.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	October 7.
Cumberland	Oscar Keen	Burkesville	October 14.
Daviess	J. J. Rodman	Owensboro	December 15.
Estill	G. A. Embry	Irvine	October 14.
Fayette	L. C. Redmon	Lexington	October 13.
Fleming	J. B. O'Bannon	Mt. Carmel	October 21.
Franklin	U. V. Williams	Frankfort	October 5.
Fulton	Seldon Cohn	Fulton	October 15.
Gallatin	J. M. Stallard	Sparta	October 15.
Garrard	J. B. Kinnaird	Lancaster	October 15.
Grant	C. M. Eckler	Williamstown	October 21.
Graves	H. H. Hunt	Mayfield	October 7.
Grayson	C. L. Sherman	Millwood	October 29.
Greenup	A. P. Hunt	Fullerton	October 1.
Hardin	R. T. Layman	Cecelia	October 8.
Harlan	W. M. Martin	Harlan	October 5.
Harrison	W. B. Moore	Cynthiana	October 5.
Hart	C. H. Moore	Canmer	October 6.
Henderson	B. J. Neary	Henderson	October 12, 26.
Henry	Owen Carroll	New Castle	October 26.
Hickman	Chas. Hunt	Clinton	October 1.
Hopkins	A. O. Sisk	Earlington	October 1.
Jackson	G. C. Goodman	Welchburg	October 7.
Jefferson	E. L. Henderson	Louisville	October 5, 12, 19, 26.
Jessamine	J. A. VanArsdall	Nicholasville	October 22.
Johnson	J. H. Holbrook	Paintsville	October 3.
Knott	Owen Pigman	Mallie	October 24.
Knox	C. L. Heath	Lindsay	October 26.
Larue	W. E. Rodman	Hodgenville	December 17.
Laurel	Oscar D. Brock	London	October 21.
Lee	A. B. Hoskins	Beattyville	October 10.
Leslie	R. L. Collins	Heden	October 28.
Lewis	A. C. Henthorn	Vanceburg	October 19.
Lincoln	D. B. Southard	Stanford	October 16.
Logan	Walter Byrne, Jr.	Russellville	October 13.
Lyon	J. H. Hussey	Eddyville	October 20.
McCracken	Delia Caldwell	Paducah	October 14, 28.
McLean	W. H. Moore	Sacramento	October 13.
Madison	J. W. Scudder	Richmond	October 13.
Magoffin	M. C. Kash	Salyersville	October 3.
Marion	R. C. McChord	Lebanon	October 20.
Marshall	L. L. Washburn	Benton	October 14.
Mason	J. H. Samuel	Maysville	October 5.
Meade	E. C. Hartman	Brandenburg	October 22.
Mercer	C. B. VanArsdall	Harradsburg	October 13.
Metcalfe	H. R. VanZant	Edmonton	October 6.
Monroe	R. F. Duncan	Tompkinsville	October 15.
Montgomery	J. F. Jones	Mt. Sterling	October 13.
Morgan	W. H. Wheeler	West Liberty	October 12.
Muhlenburg	S. T. Taylor	Central City	October 28.
Nelson	Hugh D. Rodman	Bardstown	December 2.
Nicholas	G. B. Spencer	Carlisle	October 9.
Ohio	Oscar Allen	Cromwell	October 7.
Oldham	E. D. Burnett	Anchorage	October 1.
Owen	J. H. Crisman	Owenton	October 1.
Owsley	A. M. Glass	Booneville	October 7.
Pendleton	W. A. McKenney	Falmouth	October 11.
Perry	M. E. Combs	Hazard	October 12.
Pike	W. J. Walters	Pikeville	October 5.
Powell	I. W. Johnson	Stanton	October 5.

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Pulaski	Carl Norfleet	Somerset	October 8.
Robertson	W. S. Chandler	Mt. Olivet	October 19.
Rockcastle	Lee Chestnut	Mt. Vernon	October 8.
Rowan	C. C. Nickell	Morehead	October 28.
Russell	J. B. Scholl	Jabez	October 3.
Scott	E. C. Barlow	Georgetown	December 3.
Shelby	W. E. Allen	Shelbyville, R. F. D. No. 1	October 15.
Simpson	N. C. Witt	Franklin	October 6.
Spencer	E. C. Wood	Wakefield	October 19.
Taylor	J. L. Atkinson	Campbellsville	October 8.
Todd	L. P. Trabue	Elkton	October 7.
Trigg	J. L. Hopson	Cadiz	
Trimble	F. W. Hancock	Bedford	October 5.
Union	S. L. Henry	Morganfield	October 7.
Warren	B. S. Rutherford	Bowling Green	October 14.
Washington	J. H. Hopper	Springfield	October 21.
Wayne	J. F. Young	Monticello	October 13, 20.
Webster	Roy Orsburn	Sebree	October 30.
Whitley	C. A. Moss	Williamsburg	October 1.
Wolfe	D. B. Cox	Campton	October 5.
Woodford	J. W. Crensaw	Versailles	October 6.



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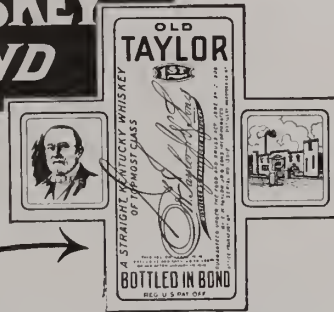
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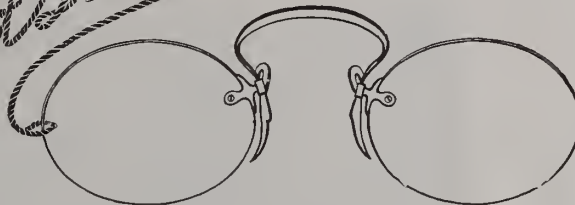
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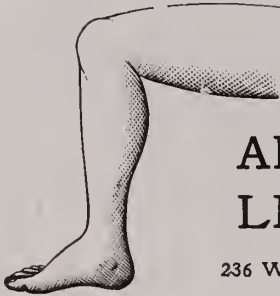
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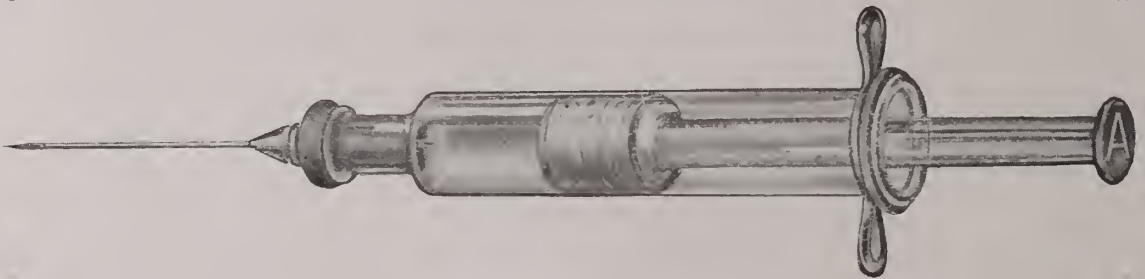
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Age—Months	Weight—Pounds	Ounces of Milk	Ounces of Water	Rounded Tablespoonfuls of Dextri-Maltose	No. Ounces at Each Feeding	No. Feedings in 24 Hours
3mo.	4 lb.	6				
3mo.	5 lb.	9				
3mo.	6 lb.	12				
4mo.	7 lb.	15	2	2	10	
4mo.	5 lb.	12	2	2	10	
5mo.	6 lb.	9	2	3	10	
5mo.	7 lb.	12	3	3	10	
5mo.	8 lb.	15	3	3	10	
6mo.	7 lb.	18	3	3	10	
6mo.	8 lb.	15	4	4	10	
6mo.	9 lb.	18	3	4	10	
7mo.	8 lb.	21	3	5	8	
7mo.	9 lb.	18	3	5	8	
7mo.	10 lb.	21	2	5	8	
8mo.	10 lb.	24	3	7	8	
8mo.	11 lb.	24	3	7	8	
9mo.	11 lb.	27	2	7	6	
9mo.	12 lb.	27	2	7	6	

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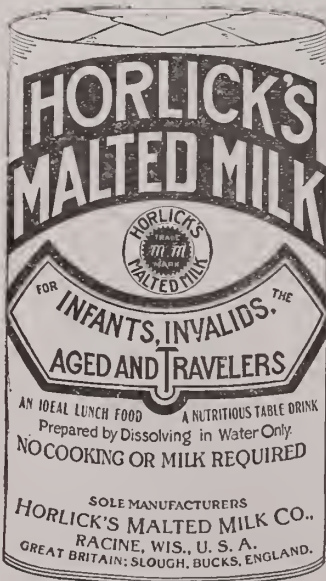


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*Rufus Cole, M. D., New York, 1913. Jour. A. M. A., lxi, No. 9, p. 663.

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COUNTY	SECRETARY	RESIDENCE	DATE
Adair	U. L. Taylor	Columbia	November 5.
Allen	H. M. Meredith	Scottsville	November 28.
Anderson	J. W. Gilbert	Lawrenceburg	November 1.
Ballard	J. S. Johnson	Barlow	December 8.
Barren	C. C. Turner	Lucas	November 18.
Bath	H. J. Dailey	Owingsville	November 9.
Bell	O. P. Nichols	Pineville	November 13.
Boone	O. E. Senour	Union	November 18.
Bourbon	C. G. Daugherty	Paris	November 19.
Boyd	C. K. Kerecheval	Ashland	November 2, 23.
Boyle	W. H. Smith	Danville	November 10.
Breathitt	Earl Moorman	Jackson	November 4.
Breckinridge	J. E. Kincheloe	Hardinsburg	December 10.
Bullitt	Roscoe I. Kerr	Belmont	November 9.
Butler	J. H. Austin	Morgantown	November 4.
Caldwell	W. L. Cash	Princeton	November 10.
Calloway	W. H. Graves	Murray	November 11.
Campbell-Kenton	F. A. Stine	Newport	November 19.
Carlisle	T. J. Marshall	Bardwell	November 3.
Carroll	E. B. Driskell	Worthville	November 10.
Carter	G. B. O'Roark	Grayson	November 10.
Casey	J. M. Haney	Middleburg	November 26.
Christian	W. S. Sandbach	Caskey	November 17.
Clark	H. R. Henry	Winchester	November 17.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
Crittenden	J. Ernest Fox	Marion	November 4.
Cumberland	Osear Keen	Burkesville	November 11.
Daviess	J. J. Rodman	Owensboro	December 15.
Estill	G. A. Embry	Irvine	November 11.
Fayette	L. C. Redmon	Lexington	November 10.
Fleming	J. B. O'Bannon	Mt. Carmel	November 18.
Franklin	U. V. Williams	Frankfort	November 2.
Fulton	Seldon Cohn	Fulton	November 16.
Gallatin	J. M. Stallard	Sparta	November 19.
Garrard	J. B. Kinnaird	Lancaster	November 19.
Grant	C. M. Eckler	Williamstown	November 18.
Graves	H. H. Hunt	Mayfield	November 4.
Grayson	C. L. Sherman	Millwood	November 26.
Greenup	A. P. Hunt	Fullerton	November 5.
Hardin	R. T. Layman	Cecelia	November 12.
Harlan	W. M. Martin	Harlan	November 2.
Harrison	W. B. Moore	Cynthiana	November 2.
Hart	C. H. Moore	Cammer	November 3.
Henderson	B. J. Neary	Henderson	November 9, 23.
Henry	Owen Carroll	New Castle	November 23.
Hickman	Chas. Hunt	Clinton	November 5.
Hopkins	A. O. Sisk	Earlington	November 5.
Jackson	G. C. Goodman	Welchburg	November 4.
Jefferson	E. L. Henderson	Louisville	Every Monday Evening.
Jessamine	J. A. VanArsdall	Nicholasville	November 19.
Johnson	J. H. Hollbrook	Paintsville	November 7.
Knott	Owen Pigman	Mallie	November 28.
Knox	C. L. Heath	Lindsay	November 23.
Larue	W. E. Rodman	Hodgenville	December 17.
Lanrel	Oscar D. Brock	London	November 18.
Lee	A. B. Hoskins	Beattyville	November 14.
Leslie	R. L. Collins	Hyden	November 25.
Lewis	A. C. Henthorn	Vanceburg	November 16.
Lincoln	D. B. Southard	Stanford	November 20.
Logan	Walter Byrne, Jr.	Russellville	November 10.
Lyon	J. H. Hussey	Eddyville	November 17.
McCracken	Delia Caldwell	Paducah	November 11, 25.
McLean	W. H. Moore	Saeramento	November 10.
Madison	J. W. Scudder	Richmond	November 12.
Magoffin	M. C. Kash	Salersville	November 7.
Marion	R. C. McChord	Lebanon	December 15.
Marshall	L. L. Washburn	Benton	November 11.
Mason	J. H. Sannel	Maysville	November 2.
Meade	E. C. Hartman	Brandenburg	November 26.
Mercer	C. B. VanArsdall	Harrodsburg	November 10.
Metcalfe	H. R. VanZant	Edmonton	December 1.
Monroe	R. F. Duncan	Tompkinsville	November 19.
Montgomery	J. F. Jones	Mt. Sterling	November 10.

COUNTY	SECRETARY	RESIDENCE	DATE
Morgan	W. H. Wheeler	West Liberty	November 9.
Muhlenburg	S. T. Taylor	Central City	November 25.
Nelson	Hugh D. Rodman	Bardstown	December 2.
Nicholas	G. B. Spencer	Carlisle	November 13.
Ohio	Oscar Allen	Cromwell	November 4.
Oldham	E. D. Burnett	Anchorage	November 5.
Owen	J. H. Chrisman	Owenton	November 5.
Owsley	A. M. Glass	Booneville	November 4.
Pendleton	W. A. McKenney	Falmouth	November 11.
Perry	M. E. Combs	Hazard	November 9.
Pike	W. J. Walters	Pikeville	November 2.
Powell	I. W. Johnson	Stanton	November 2.
Pulaski	Carl Norfleet	Somerset	November 12.
Robertson	W. S. Chandler	Mt. Olivet	November 16.
Rockcastle	Lee Chestnut	Mt. Vernon	December 10.
Rowan	C. C. Nickell	Morehead	November 25.
Russell	J. B. Scholl	Jabez	November 7.
Scott	E. C. Barlow	Georgetown	November 5.
Shelby	W. E. Allen	Shelbyville, R. F. D. No. 1	November 19.
Simpson	N. C. Witt	Franklin	November 3.
Spencer	E. C. Wood	Wakefield	November 16.
Taylor	J. L. Atkinson	Campbellsville	November 5.
Todd	L. P. Trabue	Elkton	November 4.
Trigg	J. L. Hopson	Cadiz	November 2.
Trimble	F. W. Hancock	Bedford	November 2.
Union	S. L. Henry	Morganfield	November 4.
Warren	B. S. Rutherford	Bowling Green	November 11.
Washington	J. H. Hopper	Springfield	November 18.
Wayne	J. F. Young	Monticello	November 10, 17.
Webster	Roy Orsburn	Sebree	November 27.
Whitley	C. A. Moss	Williamsburz	November 5.
Wolfe	D. B. Cox	Campton	November 2.
Woodford	J. W. Crenshaw	Versailles	November 3.

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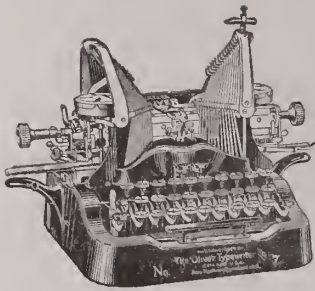
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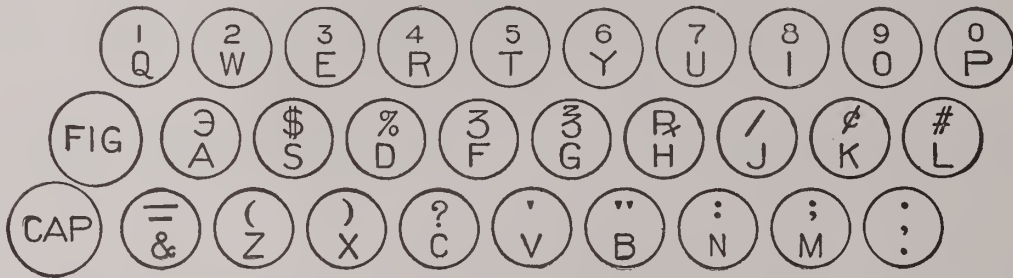
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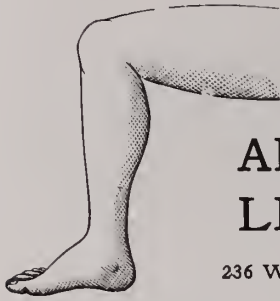
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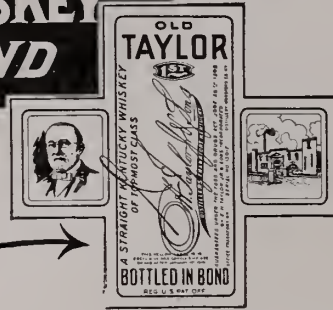
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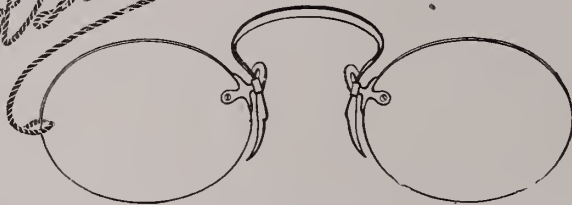
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No. 23

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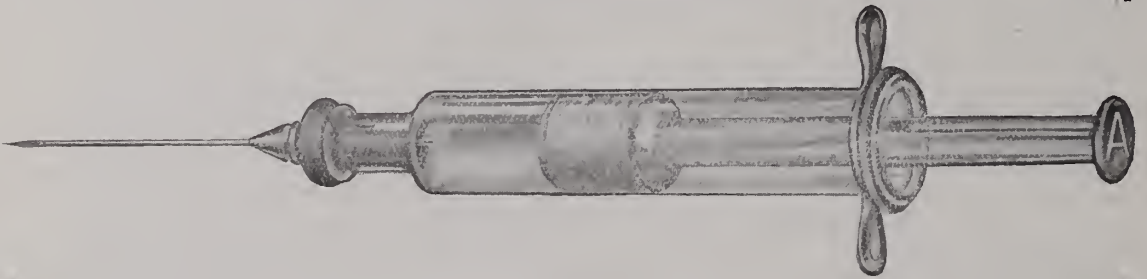
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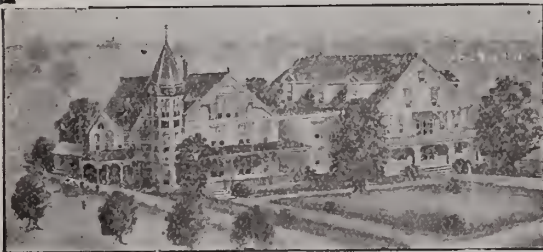
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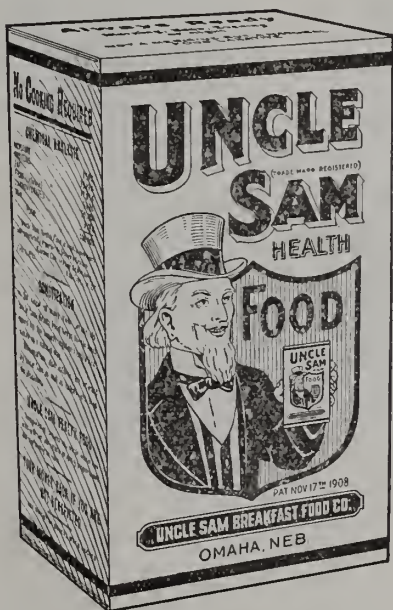
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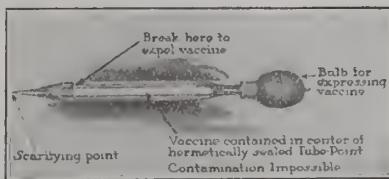
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3mo.	5 lb.	6	2	2	2	10
3mo.	6 lb.	9	2	2	2	10
4mo.	7 lb.	12	2	2	2	10
4mo.	5 lb.	15	2	2	2	10
5mo.	6 lb.	9	2	3	3	10
5mo.	7 lb.	12	2	3	3	10
6mo.	8 lb.	15	3	3	3	10
6mo.	7 lb.	18	3	3	3	10
6mo.	8 lb.	15	2	3	3	10
7mo.	9 lb.	18	2	4	4	10
7mo.	8 lb.	21	3	4	4	10
7mo.	9 lb.	18	3	5	5	8
8mo.	10 lb.	21	2	5	5	8
8mo.	10 lb.	24	2	5	5	8
9mo.	11 lb.	24	3	7	7	6
9mo.	11 lb.	27	2	7	7	6

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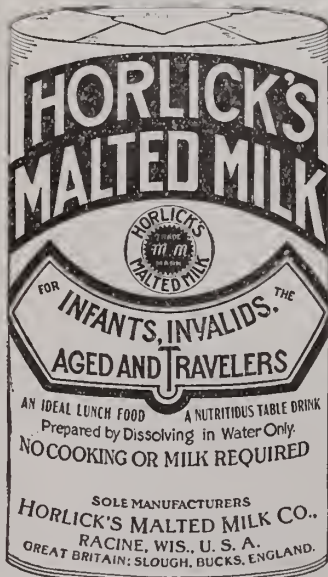
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Anderson	J. W. Gilbert	Lawrenceburg	December 7.
Ballard	J. S. Johnson	Barlow	December 8.
Barren	C. C. Turner	Lucas	December 16.
Bath	H. J. Dailey	Owingsville	December 14.
Bell	O. P. Nichols	Pineville	December 11.
Boone	O. E. Senour	Union	December 16.
Bourbon	C. G. Daugherty	Paris	December 17.
Boyd	C. K. Kercheval	Ashland	December 7, 28.
Boyle	W. H. Smith	Danville	December 8.
Breathitt	Earl Moorman	Jackson	December 2.
Breckinridge	J. E. Kincheloe	Hardinsburg	December 8.
Bullitt	Roseoe I. Kerr	Belmont	December 10.
Butler	J. H. Austin	Morgantown	December 14.
Caldwell	W. L. Cash	Princeton	December 2.
Calloway	W. H. Graves	Murray	December 9.
Campbell-Kenton	F. A. Stine	Newport	December 17.
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Carroll	E. B. Driskell	Worthville	December 8.
Carter	G. B. O'Roark	Graysou	December 8.
Casey	J. M. Haney	Middleburg	December 24.
Christian	W. S. Sandbach	Caskey	December 15.
Clark	H. R. Henry	Winchester	December 15.
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	
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Cumberland	Oscar Keen	Burkesville	December 9.
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Simpson	N. C. Witt	Franklin	December 1.
Spencer	E. C. Wood	Wakefield	December 21.
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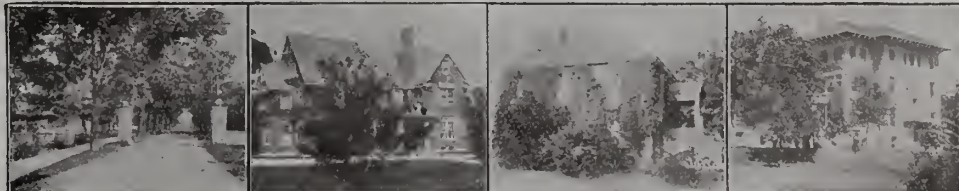
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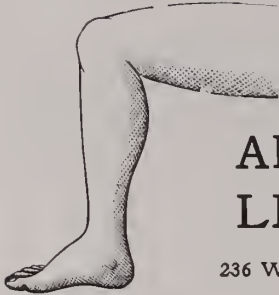
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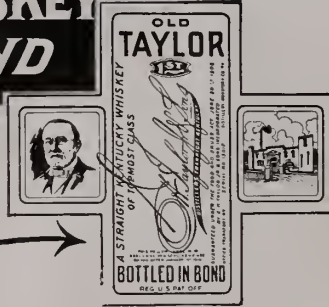
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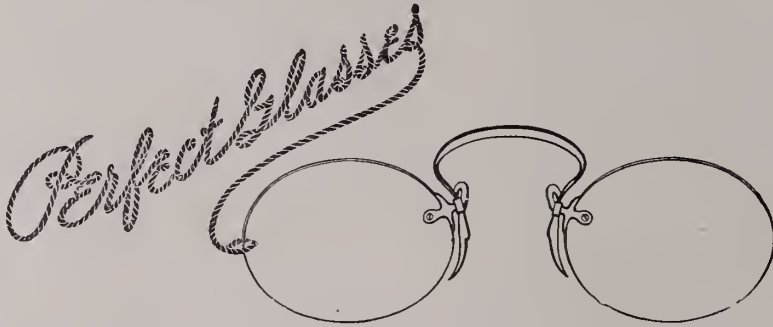
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